The Dogs in the Paper Industry Manger

PROFIT is the essential to industry.

Without profit, industry weakens and dies.

The paper industry is a large, essential industry.

Without profit, the paper industry will weaken and become a defunct business.

The essential factor of an essential industry is to operate at a profit.

The paper industry as a whole will show a profit upon its operations.

But there are divisions of the paper industry embracing pulp and paper mills, and paper converting factories, which have been operating on a "no profit" basis. Why? Because the men directing the operations are wholly incompetent and "profitless."

A "profitless" manager cannot produce profit any more than a fruitless tree can bring forth fruit. Since a fruitless tree is not expected to produce fruit, why do stockholders and directors continue a profitless management in control of divisions of an industry where profit can be produced, but is not?

We say frankly that we have not the answer to the above riddle. It is what has puzzled us and others who have observed this phenomenon. We put forth the conundrum in hopes that a solution will be forthcoming. It is essential that the answer be found. For of all the follies that this present generation of business men are concerned about, the greatest is that of continuing to operate in an essential industry without that essential to industry—a profit!

Oh, yes, there are profitless operations within the compass of the paper industry.

There are concerns, and large ones too, whose product is sold below the cost of production.

At any rate, the statements of operations at the end of each month and even for twelve months, have shown substantial financial deficits.

"But," they say, "what of it? That's our business! That's our loss, not yours."

To which we say, "No, it's not. Because you operated at a loss and on a no-profit basis, you stuck a knife into profits of others also. Don't you know," we continue, "that you cannot violate the principles of fair and just business and be the only one to suffer? Listen here, my profitless friend; if your boy breaks the fundamental law of society, commits a murder, do you agree with him when he says, 'That is my affair; I am the only one to suffer.' Of course you don't! Neither do we agree with you in this matter of murdering fair and profitable industry. When you slashed your prices on your line of papers or paper commodities, you were not the only one to suffer. You slashed other manufacturers', too! You broke the fundamental law of merchandising, which is: 'The result of cut prices is cut profits.' You thought foolishly to get by with a gain at the other fellow's expense, instead of which you annexed a penalty for yourself, and soaked the other fellow likewise. That's called in simple Anglo-Saxon, ignorant selfishness—blind, industry-wrecking selfishness of the kind that pirates practice."

Then you alleged in your defense that "my competitor cut prices first."

What excuse does that afford you for scuttling your own stockholders and the stockholders of other concerns engaged in the same line of endeavor?

For what do you imagine your stockholders have invested their money in your industry, and entrusted you with the handling of it? We'll tell it to you straight. "For a profit!"

You are under just as great responsibility to return them a profit on their investment as a trust officer is to conserve and turn over the trust funds of widows and orphans, at a profit. You cannot run a mill or a factory on a "fire-sale, price-cutting, below-cost sale basis." Safety, stability, quality and integrity of operation, price, goods and service is what you need to learn.

Today, facing the most promising outlook for profitable operation in the paper business, buyers hesitate to buy because as they say, "We are advised to hold back purchasing just now by Juggle, Price & Discount Co., who say there may be a cut in prices."

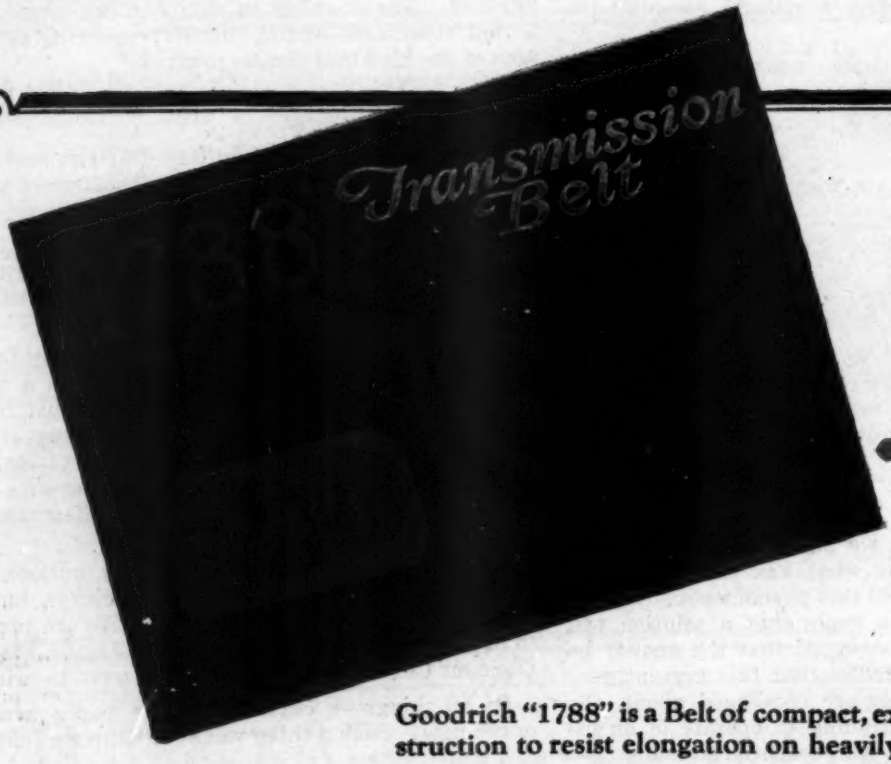
Of all things—a cut in paper or paper product prices now! Such a thing would be supreme folly.

A cut in price just at this time when pulps are harder to buy than at any time since 1920; when prices on pulps are rising to higher price levels each month; when the volume of general business is bigger than at any time since 1919, and when the carloading records for all time have just been broken—a price cut at this time when a severe squeeze in raw material prices is imminent, and when all signs and indices point to higher prices—is to talk vapid nonsense, and is wholly unexplainable except on the "no profit" basis.

And the only source, in face of these most extraordinary conditions of strength in the paper industry, from which a cut in price could come would be from those fighting fools, who are considering another price-cutting war on each other, irrespective of the losses they will inflict upon their own investors, the investors in other companies, and the harm they will inflict upon the paper industry as a whole.

If it is the operations by the present operators of some of the large paper mills and factories in this essential industry on a "no profit" basis, that demoralizes the industry, destroys the confidence of the trade, and renders profitless the output of the industry, don't you think it is about time that we "tied the can" to the operators and changed the basis to that of "making a profit?"

A Belt with Less Stretch



Goodrich "1788" is a Belt of compact, extra strong construction to resist elongation on heavily loaded drives.

Mills using it on cone pulleys, dryers, pumps, Jordans, beaters and other hard drives report less stretch—in many cases no take-ups required; 25% to 200% longer life; less maintenance expense; steadier operation and fewer shut-downs.

Identify "1788" by its light brown cover, and the brand mark in red rubber. Give it a trial and you will use it permanently.

THE B. F. GOODRICH RUBBER COMPANY
Established 1870 *Akron, Ohio*

Goodrich

TRANSMISSION BELTS

"Best in the long run"

Editorials

Observations of a Traveler

SPEAK skeptically to an old sea-captain concerning the influence of the Gulf Stream on the climate of the British Isles, perhaps characterizing it as an ancient myth, or talk disrespectfully to an old paper mill superintendent of the deckle straps on a paper machine, asking what good they are anyway, and you are likely to be treated with an equal measure of scorn and contempt from both worthies. Yet there is a growing volume of disbelief among meteorologists and papermakers as to the function of the Gulf Stream on the other.

Discarding the Deckle Strap

The deckle strap has been discarded altogether on some machines making book paper. On other types of machines making special kinds of paper the deckle strap may be suspended at a point half way down the wire so as to run over an elevated pulley, the tendency being apparently to abandon it as an integral part of the paper machine. As a means of preventing the stock from running off the wire a few jets of water are directed on the wire half an inch from the edge and extending one-third or half way down the fourdrinier, depending upon the kind of paper being made.

The foregoing is prompted by observations made in a recent tour of mills, which began at Chillicothe in lower Ohio and ended in a swing north and east to Erie, Pa. In Chillicothe and in Dayton, Ohio, several machines were observed in operation without deckle straps. The innovation is to be credited to one of the superintendents of the Mead Pulp and Paper Company, which operated the first deckleless paper machine in use, but the idea is spreading and other mills are adopting it.

Shake Goes, Too

Of special interest, too, is the tendency toward discarding the shake on other machiens besides news machines where it is now the rule to hold the deckle frame rigid, a movement being given in some instances to the wire part, though even this is also being abandoned.

In Ohio, the State health authorities have been especially active in taking measures to prevent the pollution of streams by mill effluents, and paper manufacturers have in consequence been obliged to treat waste waters of the mills for the recovery of clay, fibers and coloring matters that were at one time allowed to go down the sewer pipes. In addition to recovering valuable stock the water can be used over again. In one mill where two Dorr save-alls are installed, one for each machine, the recovery of materials formerly wasted is quite complete.

Dorr and Other Save-Alls

The mill of the Peerless Paper Company in Dayton, now owned by the Mead Pulp and Paper Company, formerly drew on three water wells in manufacturing operations, but since the Dorr save-alls came into use two of the water wells have been shut down and one of them is used only half way. After the separation of the solids, the water in which they were suspended comes away clean and pellucid, even improved to some extent as a mill water; for it must be remembered that the wells in Ohio give a water that is characterized by such extreme hardness that boiler feed water must be treated by water softeners, usually soda ash. Contrasted with a horizontal sedimentation tank equipped with a slow moving scraper, or with the screen type of save-alls, the Dorr save-all is not considered to be so well adapted for use where there are frequent changes from white to tinted papers, for the reason that save-alls of this type are more difficult to clean, but opinion is not unanimous on this, and some superintendents point to the cleaning of machines and washing of felts made necessary after a change to another grade of paper, as not less time-consuming.

Rise of the Chemist

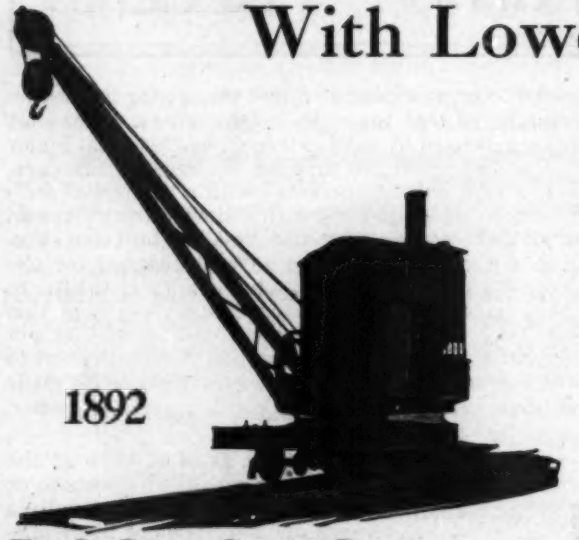
Comparing conditions in the mills of Ohio at the present time with those that prevailed a decade or so ago, there is to be noted quite a remarkable development in chemistry as an essential part of papermaking processes. In all mills where extensions are being provided and new buildings put up, the chemical laboratory and its equipment now receive a consideration not previously accorded, the chemist being properly regarded as a person of more importance in the operation of the paper mill than he was formerly. John Traquair, a former associate of Charles Frederick Cross, the noted English authority on cellulose, is in charge of the research and works laboratories of the Mead Pulp and Paper Company at Chillicothe where his education and training as a specialist in the study of carbohydrates like cellulose and starch are receiving fine recognition. Mr. Traquair has already effected some notable improvements in processes of coating paper, one of his achievements being the coating of paper with clay and adhesives over ordinary paper dryers.

The Champion Plant

Any reference to coated papers naturally brings to mind the largest plant in existence for the production of coated stock of all kinds, that of the Champion Coated Paper Company at Hamilton, Ohio, where the management is most generous in its recognition of the part played by chemistry in processes of coating paper for fine half-tone printing. In a recent announcement to the printing trades, the Champion Paper Company admits that only a chemist of great skill and experience could have attained the high degree of modernization that is found in the Champion coating plant, and a history of this mill, with a discussion of processes and equipment, would be an exposition of modern industrial chemistry at its best—which must be taken as a fine tribute to Clark Marion, the chemist in charge.

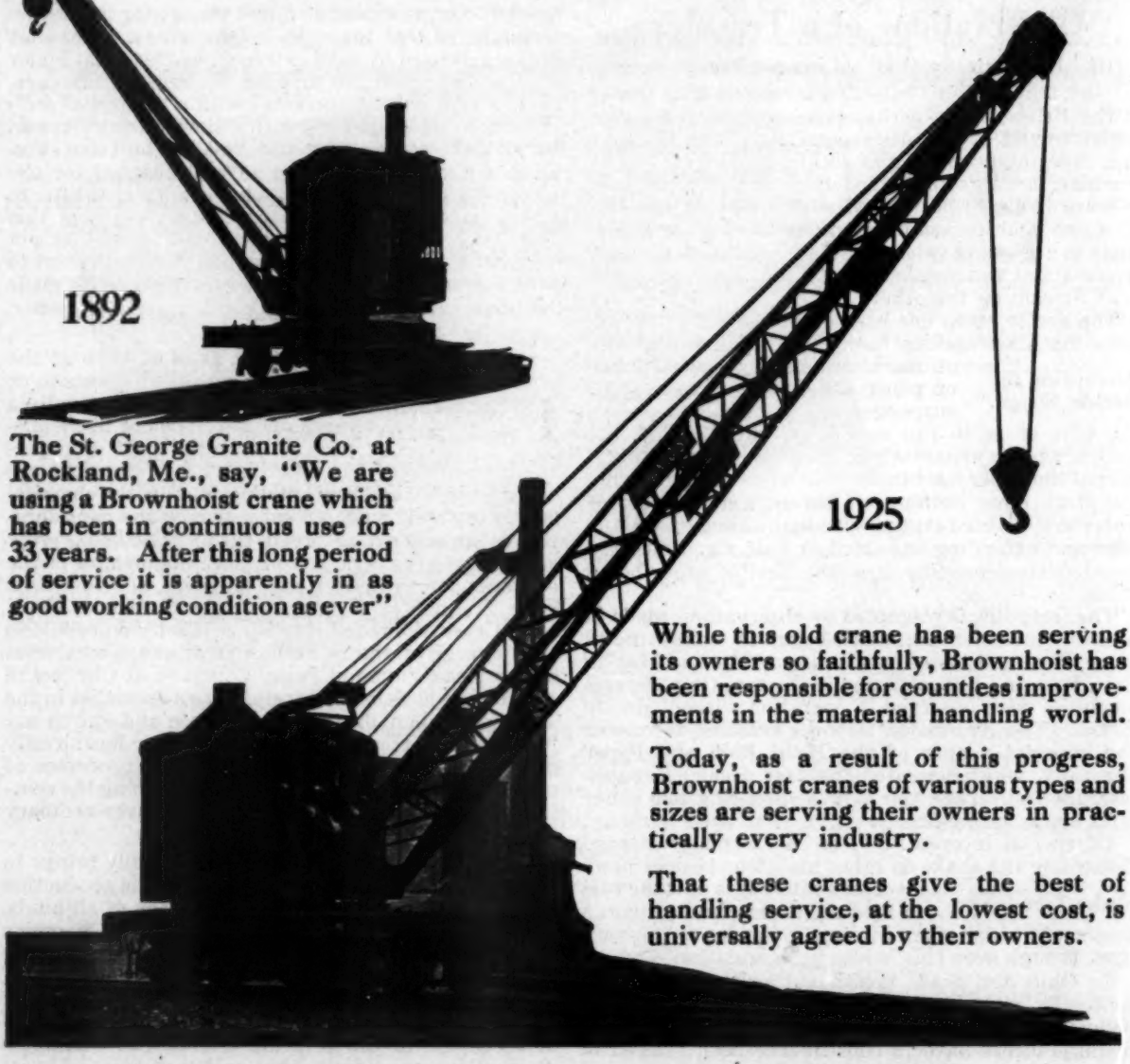
In the Champion mill the physical testing of paper, to say nothing of the chemical control of raw materials and finished products, is carried out with a remarkable attention to system and completeness of detail in all stages from raw material to finishing room. Uniformity of product is so well assured by a series of testing stages that in the final checkup the percentage of rejections now amounts to less than

A Lifetime of Dependable Service— With Lowest Handling Costs



1892

The St. George Granite Co. at Rockland, Me., say, "We are using a Brownhoist crane which has been in continuous use for 33 years. After this long period of service it is apparently in as good working condition as ever"



1925

While this old crane has been serving its owners so faithfully, Brownhoist has been responsible for countless improvements in the material handling world.

Today, as a result of this progress, Brownhoist cranes of various types and sizes are serving their owners in practically every industry.

That these cranes give the best of handling service, at the lowest cost, is universally agreed by their owners.

The Brown Hoisting Machinery Co., *Cleveland, Ohio*

Branch Offices: New York, Chicago, Pittsburgh, San Francisco, New Orleans, London, Eng.

BROWNHOIST

GOOD MATERIAL HANDLING MACHINERY

9 per cent, which is a marked reduction as compared with earlier performances before chemical and physical control was so well established.

The new building of the company is nearly ready for occupancy and the quarters there provided for the chemist and his assistants are on a most extensive, even palatial scale.

Growth of The Gardner-Harvey Co.

Among other paper plants in Ohio that have been greatly expanded within a comparatively recent period is that of The Gardner-Harvey Paper Company of Middletown. In addition to manufacturing boxboard the firm operates a carton factory which supplies boxes and cartons for all of the principal nationally advertised proprietary products, a printing plant being operated in connection with the machinery for cutting the cartons.

A novelty in the board mill is the operation of an electrical control system for maintaining uniform thickness of board, either by the speed of the machine or control of the stock boxes, even though the paper machine or the pumps run at irregular speeds.

Blue and Red Signal Lights

On entering the machine room of the board mill, one is reminded of a railroad signal station, with its display of blue, red and white lights on elevated standards at the dry and wet ends of the machine, respectively. If the pump speed slackens and the paper board runs thin the control, known as the Harvey-Lewellen Control System, automatically admits more stock to the paper machine and at the same time turns on a blue light in the signal box. When the board is running at the proper thickness a pointer on an automatic caliper stands at the point indicating it and a white light shows in the signal box. The red light appears when the board is one one-thousandth heavy and the blue light when it is one one-thousandth thin.

How It Operates

Operation of the device is controlled by a micrometer inserted between the press roll and the first dryer so that the slightest change in the thickness of the board at the press roll is automatically taken care of at the stock box. This is said to provide a much more accurate control than would be possible if the control was made after the board or paper had passed through the dryers or calenders, for it can be used on any weight of paper. The automatic caliper is a modification of the Harvey recording caliper which has been on the market for several years. In its construction pure platinum is used for the contact point and the mechanism is mounted on ball bearings.

Demand for Uniform Thickness

In a talk with George H. Harvey who was in charge of both plants in the absence of his brother Tom, he explained that with the increasing demand for boxboards for high class printing purposes the printers contend that it is practically impossible to do a first-class job of printing on boards that vary even two one-thousandths in thickness, and the box makers who use automatic machines have all kinds of trouble if the thickness does not run uniform.

The problem of maintaining uniform thickness was one that was constantly before the Gardner-Harvey Company, but it was only recently that the new device had been perfected. With the Harvey-Lewellen control system in operation a machine tender running a large machine on heavy paper knows that the caliper cannot vary and he need not give the machine his entire attention. Mr. Harvey avers that the device effects a considerable saving of material each month, which is true, seeing that board which is off caliper would either have to be cut into some other order, sold as a job lot or be treated as "broke" and taken back to the beaters.

Educating the Public

THE Bogalusa Paper Company, Bogalusa, La., recently started a campaign to put up signs one mile apart all the way from Bogalusa, reaching in several directions, going as far as the Mississippi state line. These signs are intended to educate the public on the seriousness of forest fires. We believe this policy might be followed in other sections of the South as well as other parts of the country, because it seems necessary to press very strongly on the minds of some people that a forest fire is a very serious thing.

These signs are made so they will attract attention and the following are some of the slogans used on the signboards:

"Underwrite your future by fire prevention."

"Our future is no safer than country is made from fire."

"It is better to be safe than sorry."

"Burn a forest for a smoke? What a shame!"

"Concern is a virtue. Prevent fires."

"Fire hazard is your attitude—not dry grass."

"The safety of this country from fire measures your worth."

"Seed trees and fire prevention both needed."

"City life dependent on country growth. Prevent fires."

"Thirty-seven matches man's daily average. Fires? No wonder!"

"This country's greatest annual crop—pine trees. Help."

"Are trees friends or enemies?"

"Fire protection is fundamental."

"Determine your country's future. That is your own."

"If good for the country—contend for it."

"Back the State conservation forces. Prevent fires."

"If bad for the country—condemn it."

COMPARISON

Appleton Felts and Jackets are used by eminent paper manufacturers.

The comparison of the results they secured when our products were used dictated the decision of these manufacturers.

The results secured by the use of Appleton Felts and Jackets are due, in part, to the materials from which they are made. Pure, virgin wool is used—the kind that is both rare and costly for a product like ours.

Men who are skilled in their trade take this unusual grade of wool, and with the true pride of artists direct its production into the finished products—Appleton Felts and Jackets, which are justly regarded as the best products of their kind made.

Woven into each product made by us goes the indispensable knowledge and experience gained over a period of more than 34 years in manufacturing Appleton Felts and Jackets for the exacting requirements of paper manufacturers.

The comparison of our products will substantiate our statement that they are the best for you to use, and some paper manufacturers have used them continuously for 34 years now. If you are not using our products, be guided by our suggestion and at least investigate "how" and "why" Appleton Felts and Jackets are the best and most economical to use.

116-8

Appleton

Felts and Jackets

Appleton Woolen Mills

Appleton Wisconsin

THE PAPER INDUSTRY

REG. U. S. PAT. OFF.

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Rayon or Synthetic Silk

Marvelous Derivative of Cellulose Is Now the Third Largest Textile Industry of the World

By THOMAS J. KEENAN

RAYON is the name which has been finally adopted as a generic term for the textile fiber made from chemical solutions of the cellulose of cotton or wood pulp. The product has not been known longer than twenty years, except as a laboratory process; for, although the first patent on artificial silk as a textile fiber was taken out in France in 1884 by the Count de Chardonnet, it was not until 1891 that any of it was turned out on a commercial scale.

Chardonnet nitrated cotton to form guncotton or nitrocellulose, and this was dissolved in alcohol and ether to form the viscous liquid known as collodion. The filament or thread was formed by forcing the collodion through a glass tube with a very small aperture. Upon coming in contact with air or water the alcohol and ether were absorbed or evaporated, leaving a fine thread of hydrocellulose.

Difficulties encountered in the denitration of the fibers, in order to reduce their inflammability and to make them take dyes better, have interfered with the development of the nitrocellulose process, and today only a minor proportion of the world's production of rayon is made by this method.

Until late in 1924, rayon was variously styled artificial silk, fiber silk, or glos. At that time the National Retail Dry Goods Association appointed a committee to consider a new name, it being represented that a more individual generic term would lessen any dishonest tendency on the part of the trade to pass off artificial silk goods as silk. The term "glos" was proposed, but this did not meet with favor. It was accordingly soon discarded for rayon, a term which has been officially adopted in the United States and endorsed by the Silk Association of Great Britain.

There is a curious analogy between the production of an artificial silk from the dissolved cell walls of plants, as represented by cellulose or wood pulp, and that of the true silk which is derived from the glandular secretions that form the nest or cocoon or silkworms.

Chardonnet, the first inventor of synthetic silk, who had spent many years in the study of the life habits and secretions of the silkworm, had observed that the worm got its nourishment in the shape of cellulose from the leaves of the mulberry tree at a stage of its existence when it is going through a change from the caterpillar to the chrysalis form. Shortly after the worm is hatched from the egg of the silkworm moth, it begins to feed voraciously until surfeited. In this gorged state, the worm spins around itself a cocoon of silk.

The analogy ceases here, but the men who conceived the idea of spinning nitrocellulose and viscose filaments to form a thread resembling that of silk must have gone again to nature for a model.

The silkworm is provided with two large organs or glands in the lateral parts of the body, the ducts of which terminate in two spinnerets at the mouth on the under lip. In liquid form the silk is drawn out through these spinnerets to form a filament or thread which envelops the worm to form its cocoon. Raw silk is produced by winding off several of these cocoons, after they have been immersed in hot water to soften the natural gum on the filament, on a common reel, thereby forming one smooth even thread.

Similarly in the manufacture of rayon, the viscous solution formed by the chemical conversion of cellulose to a liquid form is forced through minute apertures of capillary tubes, corresponding to the spin-

nerets of the silkworm, to form long continuous filaments, which are solidified in a fixing bath and then twisted to form a thread which is afterward reeled into the rayon yarn of commerce.

Cuprammonium and Viscose Processes

There are four main processes of converting cellulose to a liquid form for transformation into threads or filaments. These are: the Chardonnet or nitrocellulose process, already described; the cuprammonium process; the cellulose acetate process and the viscose process. Of the foregoing, the viscose and cuprammonium processes are the ones used most extensively.

A finer filament is said to be formed from the cellulose of cotton, or the more highly purified forms of sulphite cellulose, when they are dissolved in cuprammonium—a chemical reagent long known as Schweitzer's solution, consisting of a solution of copper shavings in strong ammonia water to which a little caustic soda has been added. But the cuprammonium process is not considered so economical a method of preparing rayon as the viscose process which on account of its cheapness has largely supplanted all other processes.

Viscose is a product that has been known to papermakers for many years, as it has been proposed at various times for use as a sizing agent, by addition to the paper pulp in the beater. Viscose can be made from any form of cellulose, but for rayon only strong bleached sulphite pulps of great purity and high alpha cellulose content have been employed.

The first patent for viscose was granted to Charles Frederick Cross, of London, England, in 1892, and a cellulose acetate was developed and patented by him two years later.

The preparation of viscose solutions for rayon involves three distinct operations: (1) Conversion of the pulp to alkali cellulose by mercerization; (2) xanthation, or treatment with carbon disulphide vapor to form a rubbery substance called cellulose xanthtate; (3) dissolving the cellulose xanthate in a 4 per cent solution of caustic soda. This solution must be of a certain viscosity, usually determined in commercial practice as that at which a steel ball 3 mm. in diameter will fall 20 mm. in about 30 seconds.

The mercerization of the pulp is effected by steeping the sulphite pulp in a solution of sodium hydroxide or caustic soda, of a concentration varying from 17.5 to 30 per cent for a period of three to six hours, whereby the fibers are completely swollen and a certain union is effected between the cellulose and the soda, the fibers appearing to undergo a change, the nature of which is not definitely known. At the end of the period of mercerization the excess soda liquor is drained off under hydraulic pressure, which leaves the mass of cellulose-sodium hydroxide of a volume three or four times in excess of the original quantity of cellulose used.

Great precautions are taken to insure a proper blending of the sheets of sulphite pulp so as to insure uniformity in the finished yarn. A definite number of sheets are sorted from the bales of different batches of stock. The aggregated material then becomes a manufacturing unit, and its progress through the cycle of processes is traceable and under control. The sulphite pulp intended for conversion into rayon is supplied by the pulp mills in dried sheets of a specified size, depending on the practice of the rayon manufacturer.

The wet mercerized sheets are then disintegrated or shredded to a bread-crumb-like mass and kept loosely packed in tins for a period of 24 to 72 hours to permit the alkali to diffuse uniformly through the cellulose mass. The temperature of the storeroom must be maintained constant, at say 18° Cent.

After aging or ripening in the manner specified, the alkali cellulose or crumbs are treated in a revolving drum or rotating churn of wood with the vapors of carbon disulphide until the pulp is converted into a yellowish brown rubbery mass called cellulose xanthate. It is an error to suppose that the cellulose is dissolved in the carbon disulphide. During the churning process, carbon disulphide is added at intervals. It should be stated that the revolving drums or churns are provided with paddle stirrers. The churning process should be stopped as soon as the mamixum of xanthation has taken place. In this, as in the mercerization process, technique is ahead of theory and a correct scientific explanation of the changes and new combinations effected is lacking.

Colloidal chemistry plays a part in the next stage of the process when the cellulose xanthate is dissolved, or to use the more precise terminology of the colloidal chemist, "dispersed," in a weak caustic soda solution (4 per cent), whereby the rubbery mass gelatinizes and gradually passes into solution, forming a liquid of syrupy consistence resembling plantation molasses.

The repining or aging of the viscose is of great importance. Sodium cellulose xanthate, to give the substance its chemical designation, is an unstable colloidal body which is readily revertible to hydrocellulose. The means by which it is decomposed into hydrocellulose are concerned with changes taking place in the ripening of the substance, another detail of the process, concerning which accurate scientific data are not available, and which is still a subject of speculation among chemists. If the best rayon is to to be obtained, the viscose must be spun at a definite stage in its composition.

Preparation for Spinning

Before the spinning process is started, the viscose must be filtered three times through swansdown cloth to remove any undissolved fibers, and is then subjected to a vacuum to remove the many tiny air bubbles present. It is not yet ready for the mechanical

work of conversion into filaments or threads. After the filtration and vacuum treatment, the viscose is allowed to stand in large vats or tanks for a specified time at an even temperature in order to bring it to a proper condition of fluidity and homogeneity before it can be spun.

The spinning apparatus is made up of a number of distributing pipes to which are attached branches carrying the spinning plates, which dip into a trough containing a precipitating solution. There is already a voluminous patent literature pertaining to improvements in methods of forming these precipitating or coagulating baths, nearly seventy patents having been granted specifying the use of mineral and organic acids, neutral salts and acid salts, and organic agents and their combinations. One of the latest is reported in the Official Gazette of the United States Patent Office for May 19, 1925, as issued to Charles Frederick Cross of Lincolns Inn, London, who assigns the patent to Courtaulds, Ltd., a firm which has the credit of organizing the original American Viscose Company, at Marcus Hook, Pa. By this patent the viscose is extruded into an aqueous solution containing 20 per cent by weight of sodium silicate, $2NaO—7SiO_2$, maintained at a temperature of 40° to 50° Cent. The composition of a bath used by F. D. Snell in one of his experiments consisted of glucose 10 per cent, zinc sulphate 1 per cent, sulphuric acid 10 per cent, anhydrous sodium sulphate 14 per cent, water 65 per cent.

The spinning process consists in forcing the viscose by means of air pressure or of a pump through a plate containing a number of tiny holes, which are more than two to five one-thousandths of an inch in diameter, and in fact are invisible to the naked eye unless held before a strong light. These are the spinnerets from which the viscose emerges as bundles of fine gelatinous filaments, each of the spinnerets furnishing the requisite number of filaments for a single complete thread. The thread as wound up requires further hardening by chemical treatment, followed by a thorough washing and subsequent bleaching and dyeing.

In a later issue particulars will be given of the kind and quantity of raw materials used, together with tables of domestic and foreign production, lists of manufacturers and names of firms manufacturing machinery for rayon production.

Wasted—Roads vs. Timber

By B. T. McBAIN

WE HAVE new laws for clear vision wind shields and for non-glare lamps on automobiles, also for the weight of potatoes per sack. There are laws for this and for that, which do little or no good, such as to prevent the dumping of pulp into rivers which no sane person in the manufacture of pulp ever would do, while the sewage of every large city has more wood pulp in it daily than any large pulp mill ever would throw away, yet nothing is done about it and no damage is done.

We have laws for everything including the prevention of saw dust being thrown in rivers, and it is unlawful to saw a log off in the water because the saw dust might be injurious to fish life.

All may have a value. All may be worth the time taken by State legislatures to discuss and pass.

But, day in and day out, year in and year out, valuable pulp wood and other timber is cut and knocked down all over the forests of the Pacific Northwest and millions of feet damaged and lost to posterity.

On a recent auto trip from Ashland, Oregon to Klamath Falls, Oregon, I passed through sixty miles of the most beautiful and valuable pine timber I ever saw. The highway, sixty feet wide, had been cut through this virgin timber, the trees cut down and cut into logs 16 feet, 34 feet and 32 feet long from 16 inches to 4 feet in diameter and in one mile I counted over 400 such logs on one side of the roadway. Those cut for about ten miles at each end of the road had been hauled to the nearby sawmills and cut into timber, but for 40 miles of the distance, with an average of about 800 logs per mile, some 3,200 logs lay discoloring and rotting probably never to be used and to be wasted, to the cause of good roads.

I asked a newspaper man at Klamath Falls why they were not used? He said they could not be hauled to the present mills profitably, and it would not pay to build a small portable mill in there to work them into timber. In fact, they were now considered a total loss.

Those logs probably averaged 1,000 feet each.

We are so used to this in the far west that we pass conditions of this kind by with a mere wave of the hand and forget it, but go all over the country where timber once stood, up in the Middle West Lake States of Michigan, Wisconsin and Minnesota, and learn of the need; study the timber situation from a National need point of view and it will be at once seen that something should be done either by the National Government or by the states separately to prevent this wanton waste, even though land on which timber is being wasted may belong to private owners.

There may be a reason for burning up millions of cords of good slab wood every year.

There may be a reason for the burning up of thousands of acres of good timber every year, but there surely is no reason why timber owners and logging firms should allow the waste of this natural resource of the Pacific Northwest.

Starches as Pasting Materials

By H. M. GRASSELT

THE attainment of desirable results in pasting of papers depends to a large extent on the selection and preparation of adhesives for pasting materials. In pasting of papeteries, bristol, ledger and cover papers, starches have proved to be very effective and economical materials. Their high adhesive qualities, reasonable prices and easy way of conversation into paste have led to their extensive use in pasting plants.

Generally, the three specific grades of starch used for paste are:

1—A specially prepared Pasting Starch, consisting of wheat and containing some chemical substances.

2—Corn Starch.

3—Potato Starch.

The inherent adhesive qualities of these grades can be fully developed and improved through proper methods of cooking and determination of the correct consistency of the prepared paste. The consistency of the paste must conform to the grade and sizing of the paper to be pasted.

Special Pasting Starch is used to advantage as paste on the roll pasting machine. To obtain a very satisfactory paste for a slack-sized paper, 45 pounds of pasting starch is added to 50 gallons of cold water; a hard-sized paper will require about 70 pounds of starch to 50 gallons of cold water. While being added to the cold water, the starch must be stirred continually and thoroughly in order to have the paste entirely free from lumps and undissolved particles. Through injection of live steam, the mixture is boiled until it forms a liquid gelatinous mass. During the process of boiling—above five minutes—the paste must again be thoroughly stirred so that even the most minute particle of starch will be dissolved and any lumps that develop during the conversion destroyed. To further draw out and develop fully the adhesive qualities of the starch, the prepared paste should be kept in barrels or in the tank for a period of twenty-four hours before being used.

Paste made of this special pasting starch and prepared as described, has yielded excellent results on roll pasting machines. However, it is in many cases not advisable to use it for sheet pasting, since its chemical substances affect the color of some papers.

For sheet pasting, Corn Starch or Potato Starch are the best materials for paste on account of their neutral character. They are free from chemicals, and, consequently, do not harm the color or tint of the paper.

In making up a batch of paste, for instance, of 150 gallons, 70 pounds of starch are mixed thoroughly in cold water and live steam is injected until the point of 212° is reached. At this point, the steam is shut off sufficiently to permit a slow boiling of the paste for approximately 30 minutes. The paste, thus prepared, will paste any hard-sized sheet satisfactorily. For a slack sized-sheet, the time of boiling may be reduced to fifteen minutes.

The cooking tank is, at the beginning, filled to three quarters with cold water, the starch added and then while the mixture is being stirred continually and thoroughly, more cold water poured in gradually until the container is filled to its capacity.

Paste from Corn Starch or Potato Starch also can be prepared twenty-four hours in advance for a better development of adhesive qualities. If made ahead of time, the surface of the paste will become hard; it is, however, very easy to skim off the thin layer, add a little water to the paste and boil it again for a minute or two to render it ready for use on the machines. Before being taken to the paste troughs of the machines, the mixture has to be stirred again very thoroughly.

In comparing the qualities and advantages of both starches as pasting materials, it has been found that Potato Starch is much easier dissolved than Corn Starch. Both grades, however, yield an excellent pasting material if properly prepared. Their adhesive qualities are sufficient to paste a very hard-sized sheet. Many manufacturers prefer to add a small percentage of glue or silicate of soda to the paste whenever a very hard sheet of paper has to be pasted. During hot weather, a little formaldehyde added to the paste will prevent it from getting sour and smelly.

The manufacturer should bear in mind that poor results in pasting are not always attributable to the quality and condition of the paste. Paste is just one of the principal factors in pasting; to attain satisfactory results, requires a thorough study of all other factors—namely, the paper itself, the machines and the human element.

In the manufacture of paper for subsequent pasting, proper consideration must be given to the beating, machining, sizing and finishing of the stock which must be in strict accordance with subsequent requirements. The consistency of the paste has to conform to the condition of the paper—a fact that is overlooked very frequently in pasting plants.

In regard to the equipment, it should be borne in mind that the speed of the machine must be adjusted to the two other factors just mentioned. On the roll pasting machine, the draw must be even and the process of drying gradual to allow the paste to penetrate the surface of the stock and thus knit

the fibres of the individual sheets into a solid card stock. The pasted sheet must be cooled off at the end of the dryers before it passes through the automatic cutter.

In sheet pasting, the very same principles prevail. Pressing of the pasted wet stock and drying in well-regulated lofts under observation of common sense rules for natural drying, must be studied to conform to its physical characteristics.

Constant inspection of the paper and process of pasting, an intelligent crew and effective supervision of all operations are further necessary to complete the co-ordination of the principal factors for the attainment of satisfactory results in pasting.

Chemical Studies on the Pulping of Aspen

By F. G. RAWLING[1] and J. A. STAIDL[2]

IN PREVIOUS publications emanating from the Forest Products Laboratory, some of the chemical changes which take place in wood when it is treated with certain reagents have been described, more particularly those changes which take place when bisulphite and sulphur dioxide[3] and when caustic soda[4] are used. Although the commercial application of the reagents which have been considered is made primarily for the removal of lignin from wood, all of them have a solvent effect on the cellulose also. Conditions favoring an increase in the rate of solution of lignin also favor the solution of the cellulose, and it has been found difficult to retard the latter, especially when the reagents used are distinctly acid or alkaline. Since the solution of the cellulose is recognized as being due to hydrolytic action, especially in the presence of acids and alkalies, the removal and solution of lignin should be attempted at temperatures at which the hydrolysis proceeds at a slow rate, preferably in the absence of acids or alkalies. The treatment of wood with neutral reagents for the removal of lignin would therefore suggest itself as a means of reducing the loss of cellulose by solution. The study here reported is one of a series of tests in which wood was treated with neutral salts, and it also includes, for purposes of comparison, some tests in which caustic soda was used.

Factors Influencing the Choice of a Neutral Salt

Whenever wood is treated to temperatures above 100 degrees C., in the presence of water, organic acids are formed, the quantity of which depends on the time of treatment and the temperature. Such acids have a marked accelerating effect on the decomposition of the cellulose, by reason of their acidity, and to suppress this effect, it becomes necessary to cause them to react with some chemical in aqueous solution, so that a condition of neutrality may be maintained. By the use of the soluble salts of weakly ionized polybasic acids as cooking reagents, especially in large excess, deviations from neutrality of solution may be kept within desired limits, and the chemical effect of the resulting organic acid salts will be diminished by mass action of the salt in excess. Such salts are typified by sodium borate, sodium sulphite, sodium carbonate, disodium hydrogen phosphate, and sodium ovalate.

In the present investigation, sodium sulphite was used as the cooking reagent to afford a comparison with the bisulphite process, by reason of the presence of the same acid radicle, and with the soda process, by reason of the presence of the same base. Except in one or two experiments, a large excess of sodium sulphite above the amount required for the complete solution of the lignin was used. The combination of some of the excess sodium sulphite with the organic acids produced from the wood prevented the solution from becoming acid to methyl orange, so that the neutrality of the solution was readily maintained between the values indicated by the color change of phenolphthalein and of methyl orange, respectively. Also, the excess of sodium sulphite present prevented the retardation of the velocity of the reaction which would have been caused by a lack of cooking chemical.

Materials Used

Sound aspen wood, free from bark, was ground in an air dry state until it would pass a 40-mesh screen and be retained on one of 60 mesh. Material of this degree of fineness offers no obstacle to penetration by the chemical solutions and is free from very fine material. The ground wood was extracted with a mixture of benzene and alcohol, to remove fats and waxes and cause the wood to be wetted more readily by the cooking solution. The loss in weight of the wood on extraction amounted to 4.11 per cent.

The sodium sulphite solution was prepared from caustic soda and sulphur dioxide, and was analyzed

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[3] Chemistry of the Sulphite Process, by Miller and Swanson.

[4] Chemistry of Pulps, by Bray and Andrews.

immediately before use by titration with standard acid and iodine solutions.

The steel autoclave in which the reaction took place is similar in construction to one of bronze described in a previous publication.[5] The wood and the chemical solutions were contained in a glass vessel which fitted inside the autoclave. Water was used between the glass container and the sides of the autoclave for the better conduction of heat. The oil bath in which the autoclave was heated was controlled within 0.5 degrees C. of the desired temperature by means of a thermostat and electric heating elements.

[5]Presented by Miller and Swanson before the Cellulose Division, American Chemical Society, Baltimore, Md., April, 1925.

Operation

A 15-gram sample of the extracted groundwood,

TABLE 1—SERIES I

COOKING CONDITIONS AND ANALYSIS OF PRODUCTS IN THE TREATMENT OF ASPEN WITH SODIUM SULPHITE

Time and Temperature Constant

Cook No.	Cooking Conditions				Results of Cook		Analysis of Pulps					
							Cellulose based on			Lignin based on		
	Weight of wood	Na_2SO_3 used based on weight of wood	Temperature	Time of cooking	Yield of pulp	Na_2SO_3 consumed based on wood	Pulp	Wood	Wood (loss)	Pulp	Wood	Wood (loss)
	Grams	Per cent	°C	Hours	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
10a	15.0813	12.8	170	4	68.73	9.0	85.89	59.03	5.53	13.00	8.93	12.90
3	14.6257	25.8	170	4	70.05	9.0	86.68	60.72	3.84	13.82	9.68	12.25
4	14.6283	51.3	170	4	68.49	11.9	87.49	59.92	4.64	13.15	9.00	12.83
5	14.6148	77.6	170	4	68.42	12.9	87.37	59.77	4.79	12.02	8.77	13.06
6	14.6250	103.3	170	4	67.79	16.0	87.47	59.30	5.26	8.21	5.56	16.27
7	14.6001	103.5	170	4	68.07	....	87.42	59.51	5.05	8.89	6.05	15.78
8	14.5007	128.9	170	4	67.63	19.7	87.60	59.24	5.32	7.69	5.20	16.63

a Pulp was slightly burned.

TABLE 2—SERIES II

COOKING CONDITIONS AND ANALYSIS OF PRODUCTS IN THE TREATMENT OF ASPEN WITH SODIUM SULPHITE

Time and Chemical Approximately Constants

Cook No.	Cooking Conditions				Results of Cook		Analysis of Pulps					
							Cellulose based on			Lignin based on		
	Weight of wood	Na_2SO_3 used based on weight of wood	Temperature	Time of cooking	Yield of pulp	Na_2SO_3 consumed based on wood	Pulp	Wood	Wood (change)	Pulp	Wood	Wood (loss)
	Grams	Per cent	°C	Hours	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
19	14.7139	54.3	120	4	90.20	0.7	73.32	66.13	+ 1.57	21.65	19.53	2.30
13	14.7880	54.3	130	4	87.03	1.6	76.67	66.72	+ 2.16	18.08	15.74	6.09
39	15.1301	52.5	130	4	87.29	1.6	76.91	67.13	+ 2.57	18.09	15.79	6.04
12	15.0987	53.5	140	4	84.25	3.6	78.15	65.84	+ 1.28	16.89	14.22	7.60
11	15.0872	53.5	150	4	80.55	6.2	79.53	64.30	− 0.26	15.37	12.38	9.45
32	15.1333	51.5	150	4	80.35	5.0	79.68	64.02	− 0.54	16.03	13.36	8.47
20	14.7225	54.3	160	4	76.78	7.4	80.66	61.93	− 2.63	15.15	11.63	10.20
4	14.6283	51.3	170	4	68.49	11.9	87.49	59.92	− 4.64	13.15	9.00	12.83
38	15.1337	50.6	170	4	69.22	11.3	87.88	60.83	− 3.73	....	....	....
29	15.1471	50.9	180	4	59.39	18.4	93.17	55.33	− 9.23	9.11	5.41	16.42
30	15.1520	51.1	185	4	57.37	19.7	94.07	53.96	−10.60	8.11	4.65	17.18
31	15.1042	52.1	185	6	50.29	28.7	96.80	48.66	−15.88	6.01	3.02	18.81
43	15.1045	50.6	185	8	48.69	33.7	95.50	46.49	−18.07	7.39	3.59	18.24

+indicates increase or gain. −indicates decrease or loss.

TABLE 3—SERIES III

COOKING CONDITIONS AND ANALYSIS OF PRODUCTS IN THE TREATMENT OF ASPEN WITH CAUSTIC SODA

Cook No.	Cooking Conditions				Results of Cook		Analysis of Pulps					
							Cellulose based on			Lignin based on		
	Weight of wood	NaOH used on weight of wood	Temperature	Time of cooking	Yield of pulp	NaOH consumed based on wood	Pulp	Wood	Wood (loss)	Pulp	Wood	Wood (loss)
	Grams	Per cent	°C	Hours	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent	Per cent
17	15.0092	32.59	170	0.5	59.29	13.8	85.08	50.44	14.12	12.39	7.34	14.49
16	15.1067	32.57	170	1.0	52.30	16.2	97.24	50.85	13.71	2.77	1.45	20.38
18	15.1140	32.55	170	2.0	49.39	19.2	99.40	49.00	15.47	0.63	0.31	21.52
15	15.0930	32.60	170	3.0	47.10	21.5	99.65	46.93	17.63	0.21	0.10	21.73
41	14.8475	16.85	180	2.0	57.20	16.0	93.77	53.65	10.85	9.00	5.14	17.13
21	14.7310	16.97	170	2.0	58.89	14.6	91.44	53.84	10.72	8.77	5.16	16.67
22	14.7405	16.96	160	2.0	63.40	13.1	86.70	54.90	9.60	13.22	8.38	13.45
23	14.8897	16.79	150	2.0	68.02	12.0	82.66	56.22	8.34	17.54	11.93	9.90
24	15.1450	16.59	140	2.0	71.53	11.8	78.64	56.25	8.31	21.02	15.03	6.80

Note: Cook No. 41 was made with a sample of wood analysing: Cellulose, 64.50 per cent; Lignin, 22.27 per cent.

previously dried to constant weight at 105 degrees C., was introduced into the glass container with 150 cc. of solution containing the desired amount of sodium sulphite. The glass container was placed in the autoclave, which was closed, and the apparatus was placed in the oil bath. The temperature for the latter was from 10 degrees to 15 degrees C. higher than that desired for cooking, so that the cooling effect of the autoclave would reduce the temperature to the desired point, which required about five minutes. At the end of the cooking period, the autoclave was cooled in water and the contents were removed for analysis.

Analytical Procedure

Owing to the large excess of sulphite, the spent cooking liquids were not deeply colored, being yellow to light brown. They darkened considerably, however, on exposure to air. The amount of residual sodium sulphite was estimated by direct titration with iodine. The error in the estimation due to reaction between iodine and the organic material in the liquid was very slight, as was demonstrated by precipitating the excess sulphite by means of barium chloride in the presence of a small amount of sodium hydroxide and estimating the barium sulphite in the precipitate.

The treated wood or pulp was washed to remove cooking liquids and dried at 105 degrees C to constant weight for the determination of yield. The cellulose in the pulp was estimated by Schorger's modification[6] of the Cross and Bevan method and the lignin by that of Cat and Wilkenning.[7] Analysis by the same methods showed that the extracted wood contained 64.56 per cent of cellulose and 21.83 per cent of lignin.

The pulps obtained in these tests were lighter in color than the original wood, except in one instance. (Cook No. 10.) Pulps obtained at the higher temperatures, however, acquired a faint pink coloration after washing.

Description of Tests

Series I. In this series the conditions of time and temperature of heating and volume of solution were kept constant. The object sought was the effect of a variation in the proportion of sodium sulphite to wood upon the yield of cellulose at a temperature of 170 degrees C. Since the volume of solution was kept constant, these variations were accompanied by corresponding variations in the concentration of the solution. The chemical was largely in excess in all cases, except in cooks No. 10 and 3, with respect to the amount required to dissolve the lignin.

The data are given in Table 1.

It will be observed that in each cook the percentage of cellulose obtained is practically the same when calculated to the basis of original wood. Therefore, since little difference is found in the yield of cellulose when the residual sodium sulphite varies between 16.8 and 109.2 per cent of the weight of the wood, the excess in itself causes only a slight loss of cellulose. In cook No. 10, where a small quantity of sodium sulphite was used, the yield of cellulose was slightly lower than in the other cooks, probably on account of the organic acids formed, which can not be considered as being negligible in quantity when compared with the amount of sodium sulphite. The pulp in this test (cook No. 10) showed a tendency toward being "burned" or darkened in color. The removal of lignin appears to be independent of the removal of cellulose, but the tests fail to show any marked acceleration in lignin removal even when the concentration of the sodium sulphite solution is increased ten times. The practically constant loss of cellulose throughout the series is due to the action of water at the high temperatures used, the presence of sodium sulphite serving to prevent the formation of insoluble colored substances and their deposition on the residual fiber. In cook No. 10 this protective action was reduced by the smallness of the quantity of chemical used.

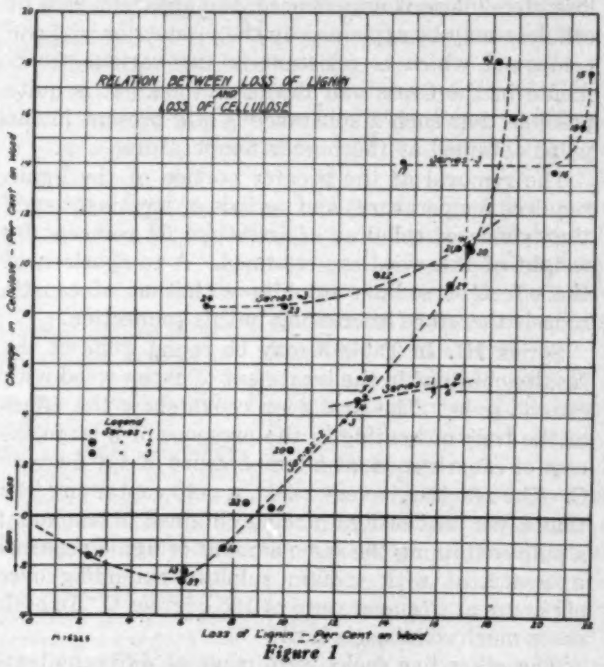


Figure 1

Series II. Having shown in the previous series that an excess of sodium sulphite in itself between the limits shown in Table 1 causes only a very slight loss of cellulose, the tests comprised in Series 2 were made to determine the effect of varying the temperature of reaction, using 50 per cent by weight of sodium sulphite on the wood. The sodium sulphite solution made up to a volume of 150 cc. as in the previous series. The temperatures were varied between 120 degrees C. and 185 degrees C., being maintained at the desired point throughout each test. Table 2 shows the results of the experiments.

[6] J. Ind. & Eng. Chem. 9, 556 (1917).
[7] Cross and Bevan, "Researches on Cellulose," 1905-1910, 3, 39.

The removal of lignin occurs at a more rapid rate at the higher temperatures, but even after treating the wood at 185 degrees C., a considerable amount still remains in the residual fiber. At temperatures in excess of 170 degrees C., a large loss of cellulose takes place, which is to be expected, since hydrolysis of cellulose increases with the temperature.

At temperatures around 130 degrees C., before a loss of cellulose is experienced, the apparent gain of cellulose may be explained by the production of some compound which is resistant to the various treatments in the Cross and Bevan method. It is quite possible that such a substance is still present in the pulps obtained at the higher temperatures.

The removal of the greater portion of the lignin requires temperatures and periods of treatment such that yields of cellulose of less than 50 per cent by weight of the wood are obtained. A comparison of the effect of sodium sulphite with that of caustic soda is therefore interesting in this connection.

Series III. In Table 3 may be found some of the results obtained in the treatment of aspen wood with caustic soda. The first four cooks show the effect of the time of heating in the presence of a large excess of caustic soda, at a temperature of 170 degrees C. The reaction is very rapid, a pulp containing less than 3 per cent of lignin being obtained in one hour; a pulp containing the same amount of lignin requires a treatment with sodium sulphite extending over six hours at a temperature of 185 degrees C. In both cases much cellulose is lost.

The other five cooks were made at different temperatures, a smaller proportion of caustic soda to wood being used to permit the reaction to proceed at a slower rate. The time for each cook was 2 hours. Although at temperatures of 140 degrees to 150 degrees C., only about 25 per cent of the lignin has been dissolved, the loss of cellulose is very marked when compared with the slight gain at the same temperatures shown in Table 2. A graphical relation between the loss of cellulose and loss of lignin in all the tests is shown in Figure 1, where the points in the graph are numbered to correspond to those of the cooks shown in the tables. The changes in the cellulose and lignin contents of the pulp are expressed as percentages of the weight of the original wood.

From the graph it can be seen that when sodium sulphite is used for the purpose of removing lignin from wood, no advantage is gained by its substitution for caustic soda in reducing the loss of cellulose if the lignin remaining in the pulp constitutes less than 7 per cent by weight of the pulp. This is due to the necessity of using high temperatures and the resulting hydrolysis of the cellulose by water.

Sodium sulphite may, however, be used to advantage at temperatures around 140 deg. C. in recovering high yields of cellulose from wood, the residual lignin being removed by a chlorination method,[8] of which the Cross and Bevan reaction is typical. The white color of the pulps obtained with sodium sulphite shows that this chemical prevents the deposition or production of brown substances on the fiber, such as those obtained by heating wood with caustic soda solution or with water alone.

The sum of the percentages of lignin and cellulose in the treated pulp affords some indication of the effectiveness of the removal of substances other than lignin and cellulose from the wood. Thus, in Series III, the pulps consist of cellulose and lignin only, even when formed at temperatures as low as 140 deg. C., the sum of these substances constituting over 99 per cent of the pulp. In Series II, on the other hand, the cellulose and lignin together do not make up a total approaching 100 per cent of the pulp until tempertures of 170 deg. C. have been reached.

Summary

A number of cooks have been performed by treating extracted aspen wood with aqueous solutions of sodium sulphite and caustic soda respectively. The neutral salt was chosen on account of its relation to bisulphites on one hand and caustic soda on the other. It is typical of the class of soluble salts of weakly ionized polybasic acids, although it may have a certain specific action on color not possessed by others of the class. It was used in excess to minimize side reactions and to neutralize organic acids formed during the cooking.

When approximately 52 per cent by weight of the wood of sodium sulphite is used, and the heating is continued for four hours between temperatures of 120 deg. and 140 deg. C., a slight increase in the yield of cellulose above that at lower concentration is found; this gain is due to the formation of compounds resistant to solution during the analytical manipulations. At higher temperatures hydrolysis resulting in loss of cellulose takes place, such action being very marked at temperatures above 170 deg. C.

Caustic soda removes substances other than lignin or cellulose from wood at temperatures below 140 deg. C.; sodium sulphite requires a minimum temperature of 170 deg. C. to accomplish a like result.

When less than 17 per cent of the wood is removed as lignin, caustic soda causes the solution of cellulose to a much greater amount than sodium sulphite; when, however, more than 17 per cent of the wood is removed as lignin, a larger loss of cellulose is experienced by the use of sodium sulphite than by the use of caustic soda.

Don't waste water. For instance, if it costs 15½ cents per 1,000 gallons and under a forty pound pressure, a quarter inch leak will waste $576 worth in a year. There has been much said about wasting white water, and this is important, but there can be many other smaller leaks around a mill that total up considerable money value in a year, and these losses should be stopped.

[8] W. Schacht. Woch. Papierfabr. 54, 2851 (1923).

Foreman Training in the Paper Industry

Part III—Discussion Material for Foremen's Conferences

By J. K. NOVINS

Author of "A Training Program for the Factory Foreman," "Foreman Training in Practice," "Manual of Practical Training for the Railroad Foreman," etc.

The Foreman as a Teacher

AT A conference of educators and personnel managers held in 1923 by the American Management Association, a significant statement was made by the educational director of a large corporation. He said: "The profession of a foreman is, according to a great many who have attempted to analyze the subject, about ninety-five per cent teaching. I believe that really is a hint that might be followed up to secure some of our best foremanship material."

That this statement is significant is indicated by the fact that at all conferences of foremen held the past several years the subject of instructing help has always taken a position of importance during the discussions. Concerns that maintain separate training departments find that much of the efficiency of such departments can be attributed largely to the cooperation of the foremen. In other plants the instruction job is entirely placed in the hands of the foreman. In most plants, however, the foreman is chiefly concerned with the "breaking in" of new men, either "green" workers, or experienced workers who must be introduced to special operations. Since the foreman has numerous other duties, this instruction job is done spasmodically, along with the other duties, and, with exceptions, is performed in an unorganized manner.

This series is a manual on the subject of foreman training, and as such is replete with valuable suggestions for the installation of a foreman training course in the paper industry.

Part Three contains eight chapters, of which the two herewith are the third and fourth. "The Gentle Art of Handling Men" and "Solving the Foreman's Safety Problems" will appear in the next issue.

The author of this series is available to answer any inquiries regarding any phase of foreman training on which the reader might wish to be enlightened.

Cost of Good Instruction

Instruction ability of the foreman often results in a great saving to his employers. At a conference of foremen held in Maryland recently, the following opinion was expressed by the majority of the foremen present:

"In some plants the foremen have the additional responsibility of training new workers which costs the management from $30.00 to $1,000. If it costs $200 to train a man and 400 men have been trained during the year, these men take from the plant an investment of $80,000.

"If the foremen have not the skill and ability to efficiently and quickly train workers, the company is liable to lose in a number of different ways, a few of which are mentioned as follows:

"1—Inferior product; 2—Increase of accidents; 3—Damage to machinery and equipment; 4—Excessive waste; 5—Spoiled product; 6—Takes too long to train men, etc.

"Many plants are content to say that this is one of the evils of the manufacturing game and must be borne as overhead expense. The matter of ineffective training has succumbed in all cases to thorough, well directed efforts to remedy it and is a matter which should not be considered hopeless and incurable."

In bringing up the subject of instruction, the leader of the conference should stress the fact that better trained foremen will ultimately result in better instruction of workers in the plant. He can cite examples of foremen being consulted by department heads and others as to the best methods of training workers. A notable case in point is that of a group of foremen employed in the Dennison Manufacturing Company plant, which was called into special conference by a representative of the Massachusetts State Board of Education to discuss the best methods of training employees.

Recently, in Washington, the writer asked Mr. Frank Cushman, Chief of the Industrial Education Service of the Federal Board for Vocational Education, the underlying reason why the government should go into the plant and spend time and money to help in the training of foremen.

"Because," Mr. Cushman replied, "we have found by experience that wherever foreman training has been introduced, the inevitable result has been better training of workers, and that through the foremen the workers were encouraged to take every opportunity for extra training. So you see, by working with the foreman we are actually helping along the entire vocational education movement."

This view is expressed in a recent voluminous report on Apprentice Education issued by the Federal Board for Vocational Education:

"While the foreman himself may be an object of interest to local, State and Federal educational authorities as a worker who needs to be helped to do his work well and to prepare for the next step, he becomes doubly an object of interest as a worker who has control over the vocational education destinies of a large number of workers."

Preparing for the Discussion

After the leader has explained the significance of good shop instruction, he is prepared to go into the details of methods of instruction by the foremen. First, however, the leader has tied up job analysis with instruction. Thus, at the conference of foremen at the Bemis Bros. Bag Company, it was pointed out, by way of introduction:

"The first responsibility of an instructor is to plan the subject matter. This usually needs a job analysis in which the operations are listed and the technical content set up. After the analysis has been made and the subject matter classified, the instructor is then ready to plan his lesson and consider the most efficient way of putting over the ideas to the learner. Through the use of job analysis, every member of the group has already prepared a general report on operations and operating points for one work job and for one payroll job in his department."

If possible, the leader should see that the foremen have access to a copy of the book, "The Instructor, the Man and the Job," a wonderful hand-book, prepared by Mr. Charles R. Allen. Mr. Allen is a pioneer in the foreman training movement. At practically every foremen's conference held in paper plants, Mr. Allen's book is made the basis of the discussion on the instruction of workers. Also, the book will serve a good purpose when used by the foremen in conducting a conference without outside help.

The elements of effective teaching of the worker are four—preparation, presentation, application and testing. These elements are carefully defined in Mr. Allen's book. In brief, these terms were defined at the Bemis Bros. foremen's conference in the following manner:

"Step One: Application. By that is meant preparing the mind of the learner for receiving that which is to be taught to him. A skillful instructor will try to build on a learner's past experience—that is, determine the apperceptive basis of the individual being taught. When this is done properly, then the learner is in a condition mentally to profit by the next step.

"Step Two: Presentation. In this step the information or job to be taught is presented to the learner. Precaution should be taken to arrange this presentation in a properly instructional order. There is danger of presenting too much at one time.

"Step Three: Application. After all the information has been given under step two the learner is now ready to attempt the job. It is very wise at this point that he have close supervision and that the instructor back-check him frequently in order to determine whether the learner has adequately understood step two.

"Step Four: Testing. Under this step the learner is examined to determine whether he has acquired the knowledge and skill necessary to do the job without any assistance. This step is not completed until the learner is able to perform the operations necessary without supervision."

Practical Demonstrations

After the definitions are fully understood by the foremen, the leader demonstrates a typical teaching job, doing it badly so that the foremen can criticise it. Thus, some of the suggestions that greeted a bad teaching job were:

Bad preparation.

Demonstration was given too fast.

Explanation was insufficient.

The whole instruction job was done without any apparent attention to the proper order—that is, the four steps in the instruction process.

No checking was done to determine whether the learner was following or absorbing the information the instructor was giving.

The instructor gave too much at one time.

No information was given with the job, it was all demonstration.

After this demonstration by the leader, the latter arranged with two different members of the group to teach respectively (a) how to oil a sewing machine; (b) how to make a matrix. After these demonstrations, according to the four steps already outlined, the foremen present gave their criticisms. Then they offered their suggestions on how the teaching jobs in both cases could be improved.

The chief criticism by the foremen was that the two teaching jobs were marked by lack of preparation. That is, the demonstrators failed to get attention and interest, they lacked poise and the instruction was incomplete. The next criticism was that the explanation was far too fast and incomplete. Thirdly, there was lack of explanation of trade terms.

The foremen agreed that the following constructive information should be included in teaching how to oil a machine:

1—What machine is, costs and does; 2—Necessity for oiling for own good and good of machine and firm; 3—Discussion of lubrication; 4—Demonstration of method of oiling; 5—Application by student; 6—Examination.

They also agreed that the following information should be included in teaching how to make a matrix:

1—What it is and does; 2—Necessity for extreme care (a) Proper paste and rolling out, (b) Beating in mat, (c) Proper drying, (d) Cleanliness of forms or patterns.

Essentials of Good Instruction

In addition to the four teaching steps outlined, the conference leader should discuss the various methods

of instructing groups or individuals, that is, whether by the lecture, illustration, demonstration or discussion methods. He should then get the foremen to make trade analysis for purpose of instruction. A trade analysis differs from a job analysis in that only those terms are listed that are used frequently but are not commonly understood, and these terms must be made clear before a specific job can be taught properly.

Briefly, there are four methods of giving instruction, as noted above, but of these two are most commonly used: the discussion and demonstration methods. It was brought out at the A. M. Collins conference that the lecture method is the poorest method. For certain purposes, it was pointed out, combinations of the methods could very well be used.

To illustrate the demonstration method, one foreman taught the job of shaping a casting, another taught the use and care of shaping plane, another how to mop a wood floor. One foreman taught by the demonstration method how to stack cardboard, another how to run an embossing plater, and another foreman how to start and control a steam engine.

By means of illustration and demonstration, several foremen taught the following jobs:

Imposing a form of sixteen pages.
Operating a reeling machine.
How to run a calender.
How to feed a job press.

For the purposes of instruction, the foremen listed the trade terms for one job in the following order:

Location Terms	Material or Supply Terms	Tools and Equipment Terms	Operation Terms	Special Terms
Hell box Dump etc.	Cut out Dutchman etc.	Old man Come-along Lazy bar etc.	Size etc.	Nigger-head Block Devil etc.

For convenience the teaching content for given pay-roll jobs may be listed in the following manner, as was done at the A. M. Collins conference:

TRADE ANALYSIS
(For Purposes of Instruction)
Name Wm. Levick Position Foreman Dept. Coating

Name of Job	Trade Math.	Trade Drawing	Trade Science	Related Knowledge and Theory
Head Color Mixer	Fundamental Operations	None	Know characteristics of pulp colors, aniline colors, casein clay ammonia	How to match shades. Safety first. Fire prevention.

The Instructor's Tools

An important factor in the instruction job is the **instructor himself.** Mr. R. W. Jenkins, during his wide experience with foremen's conferences has developed an outline which he uses to develop the instructor's part in the instruction process. This Mr. Jenkins has outlined in the following manner:

THE INSTRUCTOR'S TOOLS

1. Line of approach:
   - (a) First thing to consider—policy of handling.
   - (b) The development line of approach.
     1. Intention is to make learner think out proper procedure or reason for doing things certain ways.
     2. Never tell learner what he can think out for himself.
     3. Use his head on the job.
     4. Develop judgment and ability to do job.
   - (c) The information line of approach.
     1. Give information to learner or receive information from learner.
     2. Learner is asked to use memory or recollection, only.
     3. He thinks nothing out.
     4. Instructor may ask questions which require memory only in answering.
     5. Aim is to turn out learner who can do the job, and use no thought or judgment in doing the job.
2. Methods of instruction.
   - (a) Methods are to an instructor what tools are to a mechanic.
   - (b) Use questions to make learner think.
   - (c) Get suggestions.
   - (d) The idea is to start a line of thought.
     e.g. How do you think such and such a thing was done?
     Why do you thing it was done that way?
   - (e) Use demonstration method.
     1. Show learner how to do the job.
     2. Let learner show instructor how.
   - (f) Use illustration method.
     1. Use models, drawings and diagrams.
     2. Do not use real thing.
     3. Causes learner to use imagination.
   - (g) Use lecture method.
     1. Talk about the job.
     2. Telling how without demonstrating or illustrating.

* * *

Sizing Up the Foreman's Job

WHAT is the foreman's job? What are his chief responsibilities? How much time does he devote to each responsibility during the course of the work-day? These are questions that can only be answered after the foremen in a group have discussed their specific duties in relation to each other and in relation to the efficiency of the entire plant.

In beginning a discussion on this topic, the leader should take for granted that although the foremen know what their responsibilities are they are often at a disadvantage that they cannot classify the re-

sponsibilities, they cannot list them in order of their importance, and as in the case with job analysis and job instruction, they know their duties by force of habit but they find it difficult to tell someone else what they are.

The plan to be followed during such a discussion is to first have the men list some of their responsibilities. Then, they should classify the responsibilities. The next step for them is to chart out the responsibilities in order of their importance and in terms of time spent on each responsibility. After that, the foreman can go into detail on specific responsibilities to determine how they can increase their supervisory efficiency.

Listing Responsibilities

At the foreman's conference at the Bemis Bros. Bag Company plant, the leader asked the foremen to list some of their responsibilities in the order that such occur to them at the moment. As the men stated their responsibilities, the leader wrote them on the blackboard. In all, twenty-one responsibilities were thus listed, as follows:

1—Discipline of working force; 2—Routing or planning of work; 3—Prompt execution of work planned; 4—Recommending discharge of employes; 5—Getting out a product of quality and quantity; 6—Covering all operating points; 7—Requisitioning help; 8—Providing mimimum skill; 9—Reporting out-of-order equipment; 10—Care of minor repairs; 11—Anticipating and preventing damage to equipment; 12—Adjusting differences if they affect output of department; 13—Giving orders, suggestions and direction; 14—Taking and carrying out orders intelligently; 15—Physical and mental condition of the working force; 16—Keeping reports and records; 17—Keeping notebook; 18—Keeping special forms; 19—Co-operation; 20—Keeping department clean; 21—Instructing workmen.

Classifying Responsibilities

The foremen then classified their responsibilities into three general classes:

1—Supervisory, (a) Supervising men, (b) Supervising work, (c) Supervising methods, (d) Supervising equipment; 2—Managerial, (a) Managing supplies, (b) Managing men, (c) Managing methods, (d) Managing equipment; 3—Instructional, (a) Training "green" men, (b) Training men in new processes, (c) Training men in safety methods.

Mr. L. B. Travers, in his summary of the discussion on the three classifications, pointed out:

"In discussing the three points, it was brought out that there were two distinct ways of discharging a responsibility. The first was that of inspecting or checking a condition that existed. The second was doing something as a result of checking that condition.

"The group agreed that the first one, which had nothing to do with controlling costs, was distinctly supervisory, while the second, which was an attempt to remedy a condition and thereby affected costs, fell within the realm of managerial responsibility. This brought out the point that in discharging a supervisory responsibility a foreman did not always have a managerial responsibility in connection with it; that is, in checking a condition a foreman may find conditions that require no attention on his part. In that case he would be discharging his responsibility by doing nothing. At the same time if the condition discovered required some remedying by attempting to change this condition, he would then be discharging a managerial responsibility."

Similar classifications were discussed at the Collins conference. There was considerable discussion at that conference as to suitable definitions for these terms. One foreman defined supervision as "seeing that everything is carried out properly," and a foreman defined management as "getting maximum production at minimum cost."

Dr. Struck, leader of that conference, concluded: "In considering the specific cases that were called for in order to illustrate the principles involved, it developed that most supervisory responsibilities that a foreman has have corresponding cost elements so that supervision and management dovetail closely."

Revaluating Foreman's Responsibilities

At the Bemis Bros. Bag Company conference, an entire meeting was devoted to a revaluation of the foreman's supervisory responsibilities. The ideal condition, it was the conclusion of the foremen at this conference, as well as at other conferences, was that a foreman should devote time to each responsibility in proportion to its importance. With that in view, the foremen made analyses of their supervisory responsibilities in respect to specific operating points: The foremen rated the supervisory responsibilities in relation to their importance.

Thus, in the supervision of the shipping department, the following operations were considered of prime importance:

Make out way bill; Check and load for L. C. L.; Check and load for city; Check and load for carload; Answer city inquiries.

Next in importance were the making out of switch orders and the keeping of car records.

The following operations were considered next in importance:

Order cars; Supervise manifests; Requisition warehouse jobbing items; Charge broken stock; Supervise helper; Secure shipping orders; Make out shipping reports; Open and close shipping department.

The printing-engraving-stereotype foreman revaluated his supervisory responsibilities in the following orders of importance:

Printing; Stereotyping; Engraving; Production;

Costs; Inspecting of machinery; Ordering material; Supervision of help.

In the routing clerk's department, the supervisory ratio was as follows:

Make daily route sheets for each department; Additional instructions and revisions of daily route sheets to foremen; Emergency orders; Proofreading; Answer questions; Press room bonus tickets; Watchman supervision; Secure and list orders from office.

In supervising the machinist, the operation of repairing sewing machines received first consideration as a responsibility. Repairing new parts came next. Supervising and instructing helper was next in importance. The other operations, in the order of their importance, were listed by the foreman:

Repairing belts; Repairing transmitters; Oiling turners; Upkeep of portable motors; Ordering new parts; Blowing small motors; Setting turners; Lubricating transmitters; Oiling line shafts; Repair and upkeep of registers; Keeping records of new parts used; Sharpening end cotton clippers.

Supervising Department

The above classifications apply to supervisory responsibilities with respect to specific jobs. Let us now consider the foreman's supervisory responsibilities with respect to his department. At the Collins conference, several foremen were asked to chart out their supervisory responsibilities, giving each responsibility a rating from 1 to 10, in accordance with their importance, the most important responsibility receiving a rating of 10.

Thus, Mr. Albert Klufkee, foreman of pasting department, gave a rating of 10 to each of the following duties:

Quality of materials; Having satisfied employees; Planning work; Quantity production; Quality production; Cost of production; Work out on time; General supervision.

A rating of 5 was given to: Preparing work; Orders.

Care of machinery was rated as 4.

Mr. August Mowhoff, foreman of printing department, gave the highest rating, 10, to the following supervisory duties:

Composition; Presswork; Keeping records; Looking after orders; Materials.

Stonework was rated 5; machinery, 4; cost control, 3.

Mr. Louis Hillegas, foreman of machine shop, gave a rating of 10 to:

Training; Drawing plans; Supervising instructions; Repairs and maintenance; Cost control.

A rating of 6 to: Inspection (men, plan and jobs).

A rating of 5 to: Get materials for jobs.

The giving of instruction was rated 4; the lowest rating was given to that of keeping stock on hand.

Mr. Levick, foreman of coating department, gave the highest rating to four supervisory duties: Planning work; work out on time; Maximum production at minimum cost; and general supervision. Orders received was rated next in importance. Stock, reeling and keeping records were considered of least importance in the scale of valuation.

Foreman's Check List

For a discussion on supervisory responsibilities, certain simple forms are handy for use. In revaluation responsibilities, as above noted, the leader furnishes the foreman with a sheet of paper ruled off into squares. Each square represents 1, and the squares are numbered vertically up to 10. On each square the foreman notes the respective duty by writing down an X. He then connects the X's with a curve.

To enable the foremen to check their duties, the leader furnished a simple checking form. On this check list the foreman checks off the responsibilities that he considers as being a part of his supervisory job. These are listed in the following manner:

Covering all operation points; Providing minimum of necessary skill on each point; Upkeep of machinery; Inspecting work; Looking for trouble makers; Adjust difference; Personal interest.

Giving orders to men; Giving directions to men; Making suggestions to men.

Taking orders from supervisors; Asking for orders when necessary; Carrying out orders—Verbal, Written.

Physical condition of the working force; Physical fatigue; Mental strain; Illness; Personal habits; Incipient disease; Susceptibility to personal injury; Chronic disease; First aid; Safety first.

Obeying orders intelligently; Back checking; Following directions; Carrying out suggestions.

Making records; Getting records from men; Receiving reports; Making reports; Checking reports; Checking records; Transmitting records; Transmitting reports; Keeping records on file; Keeping reports on file.

Following prescribed procedure; Special forms; Form letters; Letters; Memoranda; No form.

Using own methods; Special forms; Cards; Loose leaf; Loose paper; Notebook.

One of the first things to do with a new employee is to tell him to be careful for himself and others, and to show him where there are possible dangers. Better be careful than sorry.

The important points for the transmission of power by line shafting are: correct design, perfect alignment, bearings with the least friction and proper lubrication. Without these, power is constantly wasted.

Pointers for the Engineer

By W. F. SCHAPHORST, M. E.

Heat Value of Coal

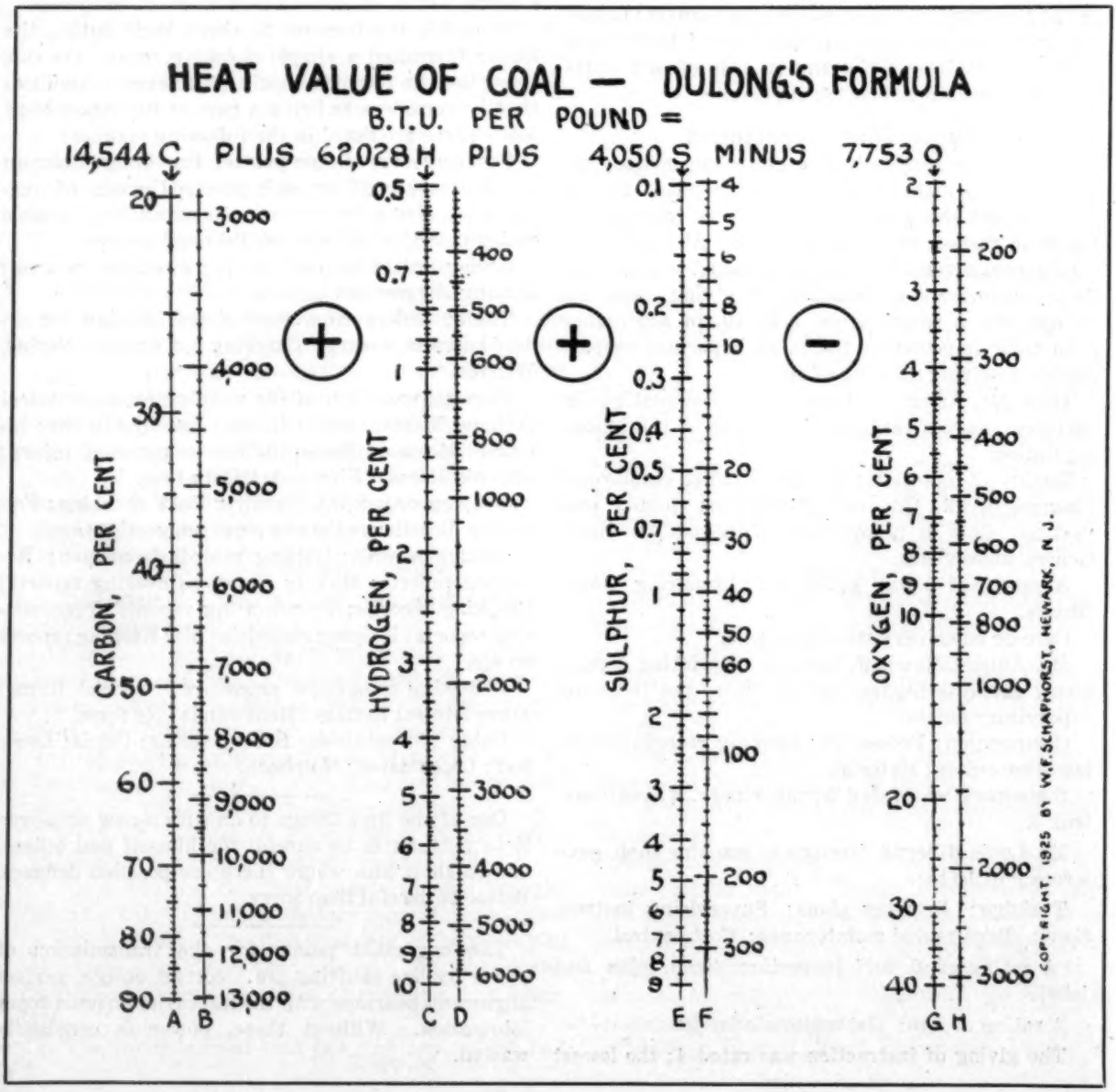
MANY paper mill engineers will find this chart convenient for computing the heat value of any coal, knowing the percentages of carbon, hydrogen, sulphur and oxygen. With this chart, it is not necessary to do any vexatious multiplying or dividing at all. Simply add three figures and subtract one figure and the result is the number of B.T.U's per pound. Adding and subtracting are always easier for most of us than dividing and multiplying.

For example, selecting at random from a long list of coal samples the writer has taken one called Marianna, mined near Pittsburgh. Its analysis shows 78.76 per cent carbon, 5.23 per cent hydrogen, 0.78 per cent sulphur and 7.61 per cent oxygen.

To apply the chart, find the 78.76 per cent carbon in column A at the extreme left. Opposite this in column B will be found 11,300. Write 11,300 on a slip of paper.

Then find 5.23 per cent carbon in column C, and in column D the corresponding number is 3,250, which is to be added to the 11,300.

Then find 0.78 per cent sulphur in column E, and


HEAT VALUE OF COAL — DULONG'S FORMULA
B.T.U. PER POUND =
14,544 C PLUS 62,028 H PLUS 4,050 S MINUS 7,753 O
CARBON, PER CENT
HYDROGEN, PER CENT
SULPHUR, PER CENT
OXYGEN, PER CENT
A B
C D
E F
G H
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column F shows the corresponding number to be 31.

Adding we get:

$$11{,}300 + 3{,}250 + 31 = 14{,}581$$

Now find 7.61 per cent oxygen in column G. The corresponding number in column H is about 595.

Subtracting 595 from 14,581 we get 13,986 as the heat value of the coal in B.T.U.

This chart is based on Dulong's well-known formula, which is said to give results that are accurate within one and one-half per cent for most coals that are dry. The formula as usually written is:

B.T.U. per lb.=14,544 C+62,028 [H — (0/8)] + 4050S.

As will be observed, I have slightly altered the formula for the purpose of making this chart. The alteration is written out in this way:

B.T.U. per lb.=14,544C, plus 62,028H, plus 4,050S, minus 7,753O.

Observe, too, that arrows point from the symbols C, H, S and O, at the corresponding columns, so that no mistake can be made. Also within circles between the columns the signs plus, plus and minus are shown prominently to aid the user in making rapid computations and to prevent possibility of error.

Burning Low Grade Coal

OWING to the difficulty of burning low grade coal on ordinary and even extraordinary grates, a new development is the burning of such coal in suspension. It is not necessary to pulverize the coal, but it must be reduced small enough in size to pass through a ⅜-inch square mesh screen or a ½-inch round opening.

A vertical jet of preheated air is said to keep the unburned particles of fuel in suspension, and at the same time oxygen is furnished by the same air for combustion. The ash and clinker are heavy enough to fall against the air blast into the ash pit below. The fine coal is fed mechanically by a screw conveyor and drops toward the air jet from above.

The manufacturer states that the furnace successfully burns coal containing 26 per cent ash, 35 per cent moisture, 5 per cent sulphur, and as low as 35 per cent fixed carbon.

That this method of combustion has a future is indicated by the Bureau of Mines Bulletin No. 237, which asserts that finely pulverized coal is not essential for efficient combustion. It states that at one time it was thought necessary to pulverize coal so fine that 85 per cent would pass through a 200-mesh and 90 per cent through a 100-mesh sieve. Experiments at Lakeside serve to show, however, that with the type of furnace used at that station so long as most of the coal passed through a 50-mesh sieve it burned efficiently. All that is necessary is that the unburned particles "remain in suspension."

That being the case it seems plausible that still coarser particles can be kept in suspension and burned efficiently in a special type of furnace such as already described.

When Is a Machine Worn Out?

THE rule or formula that definitely answers this question has not yet been written. It is not easy to write one that is applicable to everything.

Some automobile owners, for example, declare that a car "wears out" in one year and they annually trade in their one-year-old cars for new ones. But the "old" car still continues to run for a number of years in the hands of subsequent owners. Whether or not an automobile is worn out therefore is largely the whim of the owner.

In some paper mill power plants ten-year-old engines, turbines, pumps, etc., have been "junked" and replaced by more efficient and more economical apparatus. The selfsame equipment in other less progressive plants would have been kept another ten years, twenty years, or more.

We all have our own ideas about worn-out clothes and when they should be replaced. The average man "wears out" one straw hat and one felt hat each year. Women "wear out" hats more rapidly than men.

Some people use lead pencils until they are mere "stubs." Others discard pencils as soon as they are inconveniently short and then consider them "worn out."

And so on endlessly. What, then, is a good rule?

My definition as applied to paper mill machinery and equipment is this: "A thing is worn out as soon as it is found that it will PAY to replace it."

For example, a certain power transmission belt, eight years old, pulls full load without slip immediately after tightening. But it stretches quickly, slips, and must be retightened often. It is too old. Its elasticity is gone. The cost of frequent retightening, plus the cost of lost power due to slip, plus the loss of production are so high that it would easily PAY to install a new belt.

Simply because we can "get along" with an old machine, part, or thing, is no proof that it is not already worn out. My contention is that entirely too much machinery is in daily use that is "worn out." It should be replaced because it will PAY to replace it.

Cinders from Chimneys

IT IS no longer necessary to tolerate the nuisance of cinders dropping in and around the paper mill. A fan has been developed by a prominent American manufacturer which prevents the discharge of cinders by separating them from the flue gases. At the same time, induced draft is furnished. As was discovered in Pittsburgh, reduction of smoke resulted in more solid matter being carried up the stacks because of increased use of forced draft. The draft creating device itself is now being employed to also eliminate the solids. We are progressing.

Editorial Comment

By WILLIAM SIBLEY

September 13-19, 1925

SEPTEMBER 17th, 1925 marks the 138th anniversary of the framing and signing of the Constitution of the United States. In hundreds of schools, churches and theatres, this fact was brought home to the general public by voluntary speakers and lecturers. Many organizations such as the American Bar Association, The American Legion, Daughters of the American Revolution, Better America Federation, Sons of the American Revolution, Boy Scouts, the National Association for Constitution Government, the National Security League, Parent Teachers' Associations, Women's Federated Clubs, Officers' Reserve Associations, et cetera, staged special meetings devoted to the observance of Constitution Week.

September 17th is the birthday of our Constitution. Thus, September 17th is the mother of our several national anniversaries. Without September 17th, 1787, there would be no Fourth of July celebration because in the intervening years between the adoption of the Declaration of Independence (which in itself is a rather mischievous document, written in the unsteady heat of anger) and the signing of the Constitution (the Preamble of which is unparalleled for soundness and depth of import) chaos reigned as supreme in this country as it does now in Russia. Money was worthless; credit was infinitesimal; trade languished; commerce was dead; no internal improvements were made and Congress could neither raise an army nor collect revenues. Rebellion prevailed in Massachusetts and several other states. Because of the attacks of mutineers led by insurrectionists, Congress fled from Philadelphia to Princeton. Disorder, despair, disunion, discord was everywhere present. Then came the Constitution, and in the same length of time, ten and one-half years, our people startled the world and surprised themselves with matchless achievements. Without the Constitution, which came on September 17, 1787, the Fourth of July would have forevermore been inglorious rather than glorious.

It was the Constitution that made Washington "the Father of His Country" and gave Abraham Lincoln a Republic to save. Without it, we would not be celebrating the birthdays of these two men. Without a Congress backed by our Constitution, no day could have been set aside for the bestowing of deserving tribute upon those whose lives were offered for the preservation of the republic. Without the Constitution, there would have been no individual rights of person or property, and thus there would have been no Labor Day. There would be little cause for Thanksgiving Day had it not been for our keystone document.

Too many think of our Constitution as being a "law." It is not a law in the commonly accepted sense. It is far more. It is a basic premise—a principle. The Constitution is an organic law, while a statute is merely the application of it to human conduct. The Constitution is the basic alphabet—not the spelling of the word. The Constitution is the Golden Rule—not the various interpretations such as the Ten Commandments. It is the basic ten digits, not the working of a problem in partial payments. Rules always have an exception. A principle has none. Since the Constitution is a principle, let us tamper with it not at all.

Protection from Predation

SINCE realization must precede action, there is gratification in the knowledge that a very considerable number of people are awakening to the need for effective measures for dealing with the unprecedented amount of crime now in evidence throughout the country. Public attention has been repeatedly directed to the fact that more violent crimes are committed in Chicago per year than in all the British Isles.

Reliable statistics show this to be the case. The reason is found in the diametrically opposed policies of the two countries. In England, the law has long adhered to the policy of "an eye for an eye." If anyone kills another in England, that one dies. Whereas, if anyone commits murder in Illinois, that one has 900 out of 1000 chances of escaping justice. The result we are just beginning to fully realize. The obsolete idea that "you cannot rule by fear" gives way before the comparative figures for crime in England and Illinois.

Aside from the moral, there is an economic side to the crime question. In January, 1925, burglary insurance rates on jewelry stores increased 300 per cent; on drug stores, 100 per cent; on church property, 60 per cent—with lesser or greater increases all along the line. These added costs must, of course, be passed along to the consumer.

Continuance of the "humanitarian" policy of coddling criminals in nice pleasant surroundings "where they can be nursed back to mental health" will get us nowhere in the struggle against the rising tide of crime. Severity, not sentimentalism, is needed.

Should anyone doubt the efficacy of the "pay as you enter" policy, let that one study the figures of the Vigilantes—a body established through the co-operation of Iowa banks. During the twelve months from June, 1924 to June, 1925, the activities of this body reduced Iowa bank robberies from over $250,000 to less than $3,000. The motive of this body is "No work for the jury," and the premise on which they work is seen in their publicly proclaimed offering of $2500 for a dead bandit and $1000 for conviction of a live one.

The awakening of the public to the seriousness of present day crime will make unnecessary these private agencies and viligance committees and put

—— on Timely Subjects

the control and punishment of all criminals back in its proper place—the courts. Sentimentalism has been tried and found wanting. The law cannot deal with crime effectively until, in legal procedure, consideration for the rights of the accused is made secondary to the protection of the law-abiding.

Abolish the Dictator

MAYOR W. W. INGLIS, spokesman for the anthracite operators, said on the morning of September first:

"Lest we forget, all anthracite mines are idle this morning. More than 150,000 are out of their jobs. When evening comes these men will have lost $1,200,000 in wages. That is the daily pay roll of the anthracite mines.

"Not only will the miners and miners lose, but business of all kinds will suffer. This misfortune comes upon us all because the miner's leaders refused to allow the mines to keep going while a new contract was being made."

America is becoming out of date. Over in Europe, kings, kaisers, czars and autocrats have been quite passé since 1918. This is one instance in which we might profitably follow the fashion set by Europe, and abolish our dictators and czars.

The Final Assurance

WHEN that citadel of conservatism, the First National Bank of Boston, issued a statement to the effect that we are enjoying "growing confidence, rising prices, increased orders are production" it may safely be assumed that prevailing business conditions are excellent and that the measure of "excellence" is sufficiently stable to justify rather lofty hopes for the immediate future. Because this institution is usually the first to voice pessimism and the last to sound a note of enthusiasm, we believe the following quotation of interest to all:

"Practically all basic industries are on a higher production rate than a year ago, while activities in the building, automobile tire and silk industries are the highest on record for this period of the year. Operations in the street industry, having declined steadily since March, have apparently touched bottom, judging by the increasing number of blast furnaces blown in during August and early September. Prices of steel are turning upward in anticipation of heavier demand in late autumn, and this includes railroad equipment, which has been inactive for the greater part of the year. Recent price reductions on motor vehicles have stimulated buying to the extent that operations have been well sustained. In spite of labor difficulties and the heavy construction in volume of the past few years, unprecedented operations in the building industry continue."

How Efficiency Percentages Fluctuate

PRACTICALLY speaking, there are only two ways in which operating and production costs can be reduced—by improvement of physical equipment, and by development of better methods of operation. The proper determination of the amount of money or effort expended in each of these two ways is the duty of every industrial executive.

A. A. Beckwith, industrial research engineer, recently issued an interesting study in percentages which proves this principle. He said: "Let us consider a plant that is equipped with machinery which, when perfectly operated, is capable of 85 per cent efficiency as compared with the best on the market. If the men operating this machinery are only 65 per cent efficient, the production result will be 65 per cent of 85 per cent, or about 55 per cent. Then, without change in the physical equipment of the plant, if we develop the human factor to 100 per cent efficiency, the production result will jump from 55 per cent to 85 per cent—an increase of 30 per cent.

On the other hand, if only the machinery efficiency is changed to 100 per cent, leaving the human factor unchanged, we get an increase in production of only 10 per cent. This increase has to be paid for by new expenditures and investments, whereas the improvement in the human factor can be effected by a negligible increase in outlay, since wages are about the same for 65 per cent or 100 per cent efficient workers."

While Mr. Beckwith's study in percentages is apparently biased, it serves to indicate why one plant, with poorer equipment and facilities than its neighbors, can still sometimes show lower production costs. While automatization has made great strides, and whole farms are now being economically and profitably operated without the aid of a single horse, we haven't yet reached the point where plants can be operated without the aid of men. So long as this be true, let us not overlook the human factor in our search for mechanical perfection.

Overhead sprinklers sometimes do quite as much damage as the fire they extinguished. Waterproof covers for process machinery or stocks is sometimes provided by mill owners having great dependence upon working supplies. These covers have been known to save a great deal in time and material.

Every fireman should consider it his first duty to blow down the water glasses and water columns, and try the gauge cocks of each boiler. In this way he immediately makes surer that all his connections are clear and that there is the proper amount of water in each boiler.

Practical Helps for the Mill Man

Cause of Board Liner Peeling

FROM a box board mill, THE PAPER INDUSTRY has received a sample of their product showing that they have trouble with the liner peeling. The mill states that it has been unable to solve the difficulty and asks for an explanation.

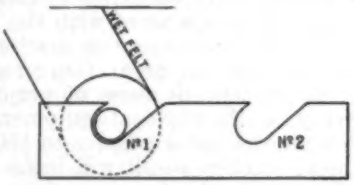
The explanation is simple and is concerned with a failure to beat the liner as fully as the filler, so that the fibers are insufficiently abraded, and being too long fail to felt properly. In other words, the liner stock is not as slow as the filler and the different fiber lengths do not bond well on the cylinder. If the liner stock is made as slow as the filler, either by more beating or jordaning or both—preferably more beating and slightly more jordaning—it will be almost impossible to separate the two.

Increasing Life of Felt Rolls

IRON felt rolls can be made to retain their smooth surface and last a lifetime, at the same time more than double the life of the felt, if the roll is covered with a quarter of an inch of rubber.

Stretching Felts with Reef Rolls

IN ORDER to stretch felts without stopping the machine, a reef roll is placed on the baseboard under the first press, and after loosening the stretcher, the felt can be pulled up by forcing the reef roll with a bar from No. 1 bearing to No. 2, and so on as shown in illustration.



Avoiding Felt Wrinkles with Suction Roll

INSTALLATIONS of suction press rolls are becoming more numerous. One problem for the papermaker in this connection is the starting up of the felts when new. It is the general practice in starting a new felt to "rope" the felt in the center of the machine and wet it thoroughly before tightening it with the stretch roll. With the rubber roll and stone or wood roll, there was danger to the felt. With the usual installation of stone and suction rolls, one wrinkle passing through the "nip" is enough to spoil the felt. The system employed in one paper mill is to raise the top press roll and run the stretch rods out far enough to take up some of the slack of the felt while leaving enough play for the shrinking. The felt is then kept nearly at its full width, and it has been found that the suction on the roll will run the felt around until it is properly wet up and shrunk. It must be remembered that the stretch roll must in no case be so far out as to tighten the felt, as in that case the felt will run into a straight wrinkle.

Pitch on the Press Roll

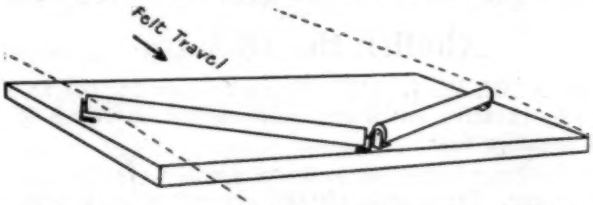
IN ORDER to avoid pitch gathering on the press roll, place a container or trough over the roll and fill it with high test gasoline. Place a piece of felt in it, the full length of the roll and about six to eight inches wide, allowing part of the piece to be in the gasoline in the trough and the other part to drag on the press roll. This will act like a wick and will not allow any pitch formation to gather. It can be used on either granite or wooden press rolls.

Keeping Holes in Drainer Tile Free

A MILL using tile bottoms for blow pits was bothered by a liming of the holes when it was necessary to leave the pits empty. It frequently took a man's labor for a whole day to punch out the holes with a stick in order to get the blow-pit bottom to permit the passage of the stock. To remedy this condition, a shower head was installed in the top of the pit, and the bottom of the pit was kept wet at all times. By making up a special shower head, it is possible to shower the whole bottom of the pit from the single shower which is placed within easy reach of the opening in the top of the blow pit, and hence, is easily detachable for cleaning. When the pit is empty, the shower is turned on.

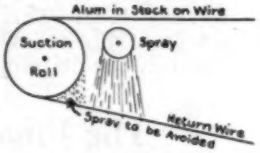
Spread Roll for Dryer Felt

LOSS from wrinkled dryer felts may often be reduced by the use of spread rolls. The spread rolls—especially for a wide machine—should be specially built and provision should be made for the lubrication of the center bearings. There need be no more pitch on the rolls than for the wet felts. The rolls when put in the felt are placed as near as possible the point where the felt goes on to the dryers. Prompt use of spread rolls after the wrinkle has run in the dryer felt frequently gives full life from the felt. Sometimes felts which have run in a wrinkle are saved by taking the felt off and running on to the machine other end around. The use of the spread rolls in connection with this expediency insures its complete success.



Keeping Suction Roll Clean

THE spray which plays on the return wire directly behind the suction roll, should not be allowed to splash back on the roll, as the alum going over the wire forms an acid on the roll, and the alkaline precipitation of the two makes alum hydroxide, and from this a substance forms over and eventually closes the holes.



Prolonging Life of Paper Carrying Rope

LIFE of paper carrying ropes can be considerably prolonged by a simple expedient devised by a millwright. Paper carrying ropes on the dryers of fast speed news machines were giving out with disconcerting frequency. It seemed to be impossible to make the splices tight enough to keep them from fraying and occasionally catching and tearing the whole rope off. Finally the splices were taped with ordinary electricians' insulating tape, and the life of the ropes has been increased enormously.

Mill Payroll Quips and Quirks

A NUMBER of ideas of interest and value were picked up in the Massachusetts paper mill district, one of them especially applying to the handling of payrolls. In one mill, employees are paid in checks of five and ten dollar denominations in order that they shall have less difficulty in cashing them. The third check provides for the odd amounts to make up the total. On the back of each pay check is a list of the types of employees the mill has in its service so that identification becomes an easier matter.

Of course, it is necessary for the cashier and countersigner to sign each one of these additional pay checks but it is felt that the convenience to the employee makes the extra time and work worth while.

It is felt that this method not only induces thrift on the part of the employee, who is less likely to spend all his money on pay day, and it also has the effect of leaving large payroll sums in the mill's account at the bank for the reason that the employees do not cash all of their pay at the one time as they would in the case of a single check covering the week's work.

Remodeled Power Plant of the National Paper Products Company

By H. G. INGRAHAM
Resident Engineer for V. D. Simons, Consulting Engr., Chicago, Ill.

DUE to the magnitude of some of the recently completed hydro-electric developments on the Pacific Coast, the general impression throughout the East is that most of the western industrial plants are situated on mountain streams and have their own hydro generating equipment. While this is true in some instances, conditions are not materially different than in other parts of the country where the mills either purchase their own power from large public utility corporations or install sufficient steam driven generating equipment. The main difference between steam power plants on the Pacific Coast and those elsewhere lies in the almost exclusive use of fuel oil or natural gas.

When the National Paper Products Co. authorized a development and modernization program for their Stockton (Calif.) Division, the power plant offered one of the largest subjects for investigation. The possible economies that could be secured by generating all electric power were readily apparent when considering the inevitable increase in demand for exhaust steam due to the contemplated improvements. In addition to requiring a greater volume of this steam to accommodate increased paper machine drying capacity, proposed substitution of exhaust for live steam formerly used for process work showed the wisdom of making radical changes in the former steam plant.

Originally both paper machines were driven by variable speed engines, the exhaust of which was insufficient for drying and other requirements. This necessitated the use of a great deal of live steam makeup at times which, of course, is un-economical in itself as well as causing extreme fluctuations in boiler loads. The former lack of heat balance would have been greatly magnified with an increased demand for steam from the five 180-pound pressure boilers then in use. Feed water troubles, wastage of condensate, inefficient furnaces and settings for high ratings called for immediate expenditures, even in the event no generating equipment were installed.

A careful check of the electric power and steam consumption was made to determine sizes and types of prime movers suitable for fulfilling the conditions. The results showed that an average of 1750 k.,w. per hour should be sufficient to supply the exhaust steam demand. This was based on a water rate of 21.9 pounds of steam per k. w. hour at 16 pounds back pressure as guaranteed by a certain manufacturer. The demand was figured to include the total heat required with the new process equipment operating and at the increased paper production rate. The average hourly power demand was estimated to be 2,400 k. w. per hour. The logical combination of units to meet this condition was a back pressure uniflow engine operating with steam at high pressure and superheat and exhausting at 16 pounds, combined with an economical condensing turbo-generator using non-superheated steam from the present boilers.

Three of the former five low-pressure boilers were removed and in their place were substituted two modern high-pressure boilers to operate at 300 pounds. These were equipped with superheaters so that the engine could be supplied with steam having a total temperature of 615 degrees. All pipe and fittings were made of steel with Sargol welded joints.

The engine selected was a high-speed, duplex, horizontal, poppet valve uniflow with a 28x48-inch bore and stroke and to operate at 120 revolutions per minute. There is a direct connected generator of 2500 kva. capacity. The exhaust from either cylinder can be run direct to either of the two paper machines at different back pressures or can be joined together in a general exhaust to supply process steam other than that desired for drying paper.

The condensing turbine is of the impulse and reaction type with a direct connected 1250 kva. generator. In order to operate the engine and turbine units in parallel, a motor-driven synchronizing device was provided on each engine cylinder. This device is under control of an exhaust pressure regulator called a "pontoon," which keeps the exhaust pressure within one pound of the determined pressure. As the mill electrical load varies irrespective of the steam demands, this regulator is set to maintain such electrical load on the engine generator as required to supply sufficient exhaust steam, balance being taken care of by the turbine. As

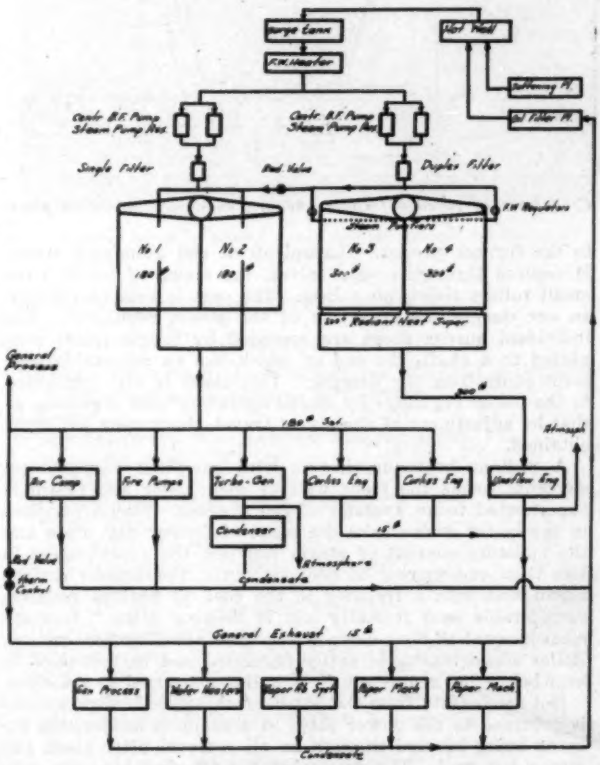
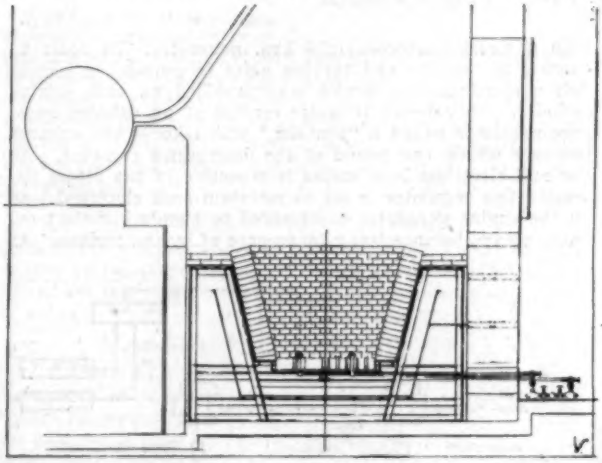


Diagram of power plant showing feed water lines, high and low pressure steam distribution and condensate returns

the back pressure raises or lowers, an electrical contact is formed which operates the small D. C. motors on the engine valve gear and shortens or lengthens its cutoff. The turbine governor follows the load changes quickly while the engine governor is more static and holds a given part of the load steady while the total plant load is fluctuating. A 175 kva. geared turbine to operate at 10 pounds back pressure is used to provide Sunday and shutdown service, the steam being used for feed water and to keep the paper machine dryers warm.

The two new boilers are the Sterling type of 7,230 square feet heating surface arranged with high settings. The first installation consisted of five mechanical oil burners which were later removed to make way for the present vertical firing retort furnace. This furnace was the first of its kind ever installed and was designed to operate at high ratings in conjunction with an interlocking fire and damper control

actuated from a one-pound variation in steam pressure. As shown in the cross section, the retort is a high brick-lined hopper set in a framework of small channel and angle irons. Seven steam atomizing burners set in two rows in the fire-box are inserted from the front and are raised into place by small rack and pinion lifters so that the heads just protrude through the hexagon tile ventilated floor. Air for each burner is admitted through individual doors and ducts, the air cooling the retort but being preheated before admission



Cross section through furnace showing air-cooled retort in place

to the furnace proper. Control of oil and atomizing steam is secured through needle valves, the stems of which have small rollers riding on a cam. The cam is rotated through an arc during the operation of the piston regulator. The individual burner doors are operated by toggle joints connected to a shaft, the end of which has an adjustable segment controlling the damper. This shaft is also connected to the piston regulator by chains operating over segments so that by adjustment of the arc of travel, the proper setting is obtained.

A radiant heat superheater with one-piece forged steel elements forms the front wall of each boiler and steam is superheated to an average of 200 degrees. Steam purifiers in the boiler drums take the place of former dry pipes and the moisture content of steam supplied the superheaters is less than one-quarter of one per cent. Continuous surface blowdowns with a transfer to the fuel oil heaters reclaims considerable heat formerly lost in blowing down. Accurate measurement of blow-down water is obtained by flow meters. Boiler concentration is easily regulated and in this plant is kept below 250 grains per U. S. gallon expressed as chlorides.

Hot condensate from the paper machines and other sources is returned to the power plant in a common header, the returns being boosted through an oil removal filter plant and into a hot well. The treatment for filtering hot, oily condensate consists of the addition of caustic soda and alum sulphate for coagulation purposes before filtering through a graduated sand bed filter. In the hot well treated water make-up is added by means of a float valve on the inlet from the zeolite softening plant. Temperatures in the feed water heater are maintained around 216 to 218 degrees. Each pair of high and low pressure boilers are equipped with multi-stage motor driven centrifugal pumps on the feed lines and horizontal steam pumps are used as auxiliaries. Twin filters are located between the pumps and feed water regulators as an additional precaution against the possibility of oil contamination.

At times considerable fresh hot water is used for process work throughout the plant and the temperatures required are from 165 to 185 degrees. Circulating water from the turbine condenser is passed through an instantaneous heater in the power house basement, exhaust steam to the desired amount being admitted through a multiport valve. The surplus condensing water is reclaimed in a reservoir where it is re-used as shower water on the paper machines.

Although the power plant work was but one step in the whole development scheme, without a redesign of the former steam plant the general process and paper machine improvements would have lost a great portion of their present effectiveness. The remodelled power plant can not only generate power cheaper than purchasing from outside, but it is in the value of exhaust steam for process work where the savings are apparent. Approximately fifteen per cent of the cost of steam is chargeable to the engine, balance being applied against paper drying and other heating.

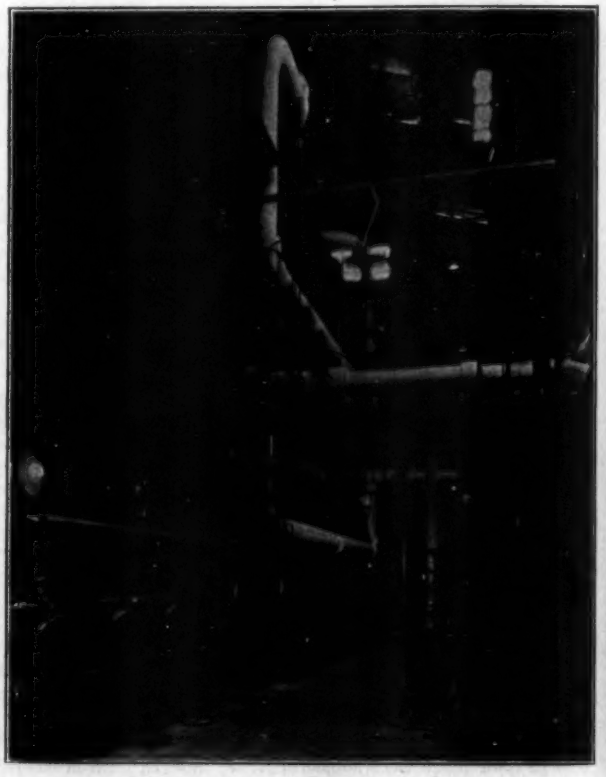
By the installation of proper recording and indicating instruments, an accurate system of daily records are obtained. There is one man whose duty is to keep these instruments in the best possible shape. This man also keeps comparative records and supplies proper distribution costs for use of the office accountants. Periodic efficiency tests are run, also various calorimeter and pressure drop investigations. The boiler room crew consists of one fireman and one utility man on each of the three shifts. The average evaporation is slightly over two million pounds of water per 24 hours.

The following is a manufacturer's equipment table:

Data on Equipment in Power Plant

Boilers and Superheaters

Boilers:
Manufacturer—Babcock & Wilcox Co.
Type—Two Stirling Class M.
Heating Surface—7400 sq. ft.
Pressure—180 lb. ga.
Type—Two Stirling Class 13-26.



View of boiler room looking toward high pressure boilers

Heating Surface—7230 sq. ft.
Pressure—300 lb. ga.
Erectors—Chas. C. Moore & Co.

Superheaters:
Manufacturer—Power Specialty Co.
Type—Foster Radiant Heat.
Superheat at Normal Rating—200° F.
Total Steam Temperature—617.5° F.

Breeching and Stacks

Builders—No. 1, Union Iron Works; No. 2, Pacific Coast Boiler Wks.

Erectors—No. 1, Al. Coutts; No. 2, Chas. C. Moore & Co.
Type—Riveted steel.
Diameter—7' 6".
Height above floor—165' 0".

Brickwork

Contractor—Bert Williams.
Fire Brick—A. P. Green; Stockton Gasco.
Superheater Tile—M. H. Detrick Co.
Superheater Insulation—Johns-Manville Co.

Furnace and Damper Control

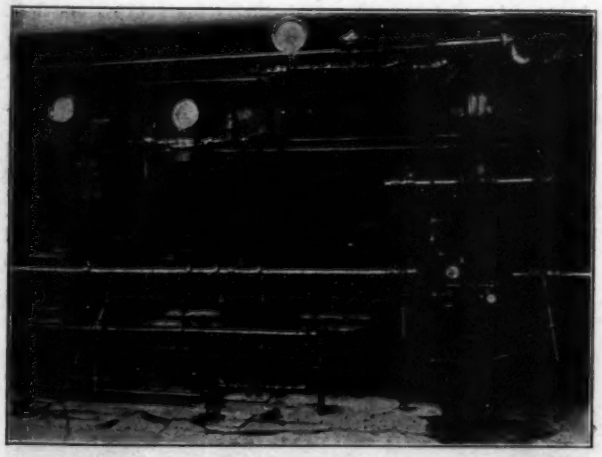
Builders—Leahy Manufacturing Co.
Type Furnaces—Two Vertical Retort.
Burners—7 Steam Atomizing.
Type Damper Control—Two Leahy Interlocking Fire & Damper.
Regulators—Two National "Ajacks".
Erectors—Leahy Mfg. Co.

Pumps

Boiler Feed:
Manufacturer—A. S. Cameron Pump Co.
Type—1 No. 3-5 stage centrifugal; 1 No. 2½-4 stage centrifugal.
Manufacturer—Worthington Pump Co.
Type—1 Duplex Center Packed D Slide Valve.
Manufacturer—Union Steam Pump Co.
Type—1 Burnham Simplex Outside Packed Pot Valve.
Fuel Oil Pumping Set:
Pump Manufacturer—Worthington Pump Co.
Size—6"x3½"x6".
Type—Outside end packed.
Heater Manufacturer—Griscom-Russell Co.
Erector Oil Pumping Set—Chas. C. Moore & Co.
Miscellaneous Pumps—Hayton Pump & Blower Co.; Byron Jackson Pump Co.; Sterling Pump Co.

Feed Water System

Softener:
Type—3 Unit Zeolite.
Capacity—185,000 gals. per 24 hrs.
Manufacturer and Erector—The Permutit Co.
Oil Removal Filter:
Type—Single Filter Coagulating.



Front of high pressure boilers showing fire and damper control

Capacity—10,000 gals. per hour.
Manufacturer and Erector—The Permutit Co.
Feed Water Heater: Stickle Open Coil.
Grease Extractors: 1 Blackburn-Smith Twin; 1 Griscom-Russell Single.
Control Service: Cyrus W. Rice & Co.

Engine Generating Unit

Engine:
Manufacturer—Nordberg Mfg. Co.
Type—Duplex Horizontal Poppet Valve Uniflow.
Bore—28".
Stroke—48".
Speed—120 R.P.M.
Guaranteed Water Rate Full Load at 15 lbs. B.P.—21.3 lbs. per K.W.H.
Generator:
Manufacturer—Allis-Chalmers Mfg. Co.
Capacity—2500 K.V.A.
Back Pressure Regulators: Northwestern Mfg. Co.
Throttle Valves: Strong-Carlisle-Hammond Co.

Interior view of power house looking toward turbine and switchboard

Multi-Port Relief Valves: Cochrane Corp.

Turbo-Generator Unit

Turbine: Manufacturer—Westinghouse Electric & Mfg. Co.
Type—Condensing Impulse & Reaction.
Generator:
Manufacturer—Westinghouse Electric & Mfg. Co.
Capacity—1250 K.V.A.
Condenser:
Manufacturer—Union Steam Pump Co.
Type—Surface.
Size—1800 sq. ft.
Oil Cooler: Griscom-Russell Multiwhirl.

Electrical Equipment

Switchboard—8 Panel.
Manufacturer—Westinghouse Electric & Mfg. Co.
Cable—Standard Underground Cable Co.
Disconnect Switches—Electrical Engineering Co.
Miscellaneous Fittings—Western Electric Co.

Miscellaneous Equipment

Traveling Crane—25-ton, Whiting Corporation.
Piping, Valves and Fittings—Sargol Welded, Crane Co.
Blow Off Valves—Tandem, Yarnall-Waring Co.
Automatic Stop and Check Valves—Strong-Carlisle-Hammond Co.
Steam Purifiers—Tracy Engineering Co.
Pipe Covering—Johns-Manville Co.
Instantaneous Water Heater—Griscom-Russell Co.
Engine Indicators—Crosby Steam Gauge & Valve Co.
Boiler Meters—Bailey Meter Co.
Flow Meters and CO_2 Recorders—Republic Flow Meters Co.
Recording Instruments—C. J. Tagliabue Co.; Foxboro Co.; Bristol Co.
Steam Traps—Crane Co.; W. H. Nicholson Co.
Motors—Westinghouse.
Miscellaneous Valves—Edward Valve Co.; Lunkenheimer Co.; Auld Co.
Oil Filters—S. F. Bowser Co.
Consulting Engineer—V. D. Simons, Chicago, Ill.

Hammermill Holds Annual Conference

THE fourteenth annual conference of Hammermill Agents in Erie, Pa., on August 26, 27 and 28, was attended by upwards of 100 wholesale paper dealers, some coming from as far away as San Francisco, and others from New Orleans, Memphis, Milwaukee and Minneapolis, in addition to those registering from nearby points in Ohio, New York, Massachusetts and Pennsylvania.

Meetings Held at KAHKWA Club

All business meetings and entertainments of the Hammermill Agents took place at the Kahkwa Club, situated eight miles west of the city. General headquarters were at the Lawrence Hotel where those attending the conference were the guests of the Hammermill Paper Company for breakfast during the time of their stay. Complimentary luncheons and dinners were served at the Kahkwa Club, the visitors being driven from the Lawrence Hotel to the Kahkwa Club in cars provided by the Hammermill Paper Company.

Many of the visitors reached Erie on Tuesday night and there was nearly a full representation of agents for the opening of the business meeting at the Kahkwa Club at 1 o'clock on Wednesday afternoon. Prior to this a reception was held and luncheon was served in the club at noon. Except for the annual dinner in the ball room of the Kahkwa Club on Thursday evening which was attended by many visitors not members of the Agents' association, the three-day conference was purely a family affair from which press representatives were excluded.

Mr. Behrend Presides

The meetings were presided over by Ernest R. Behrend, president of the Hammermill Paper Company. At the opening sitting on Wednesday afternoon, Mr. Behrend reviewed the history of the annual conferences of Hammermill Agents since their inception fourteen years ago. He stated that the Hammermill Paper Company was the pioneer in holding annual conferences of this kind but that its example was now being followed by several other paper manufacturing firms.

No Reports of Officers

It is customary at the opening sessions of the conferences for the officials of the company and the converters of the Hammermill lines to make addresses in the form of reports of progress, but Mr. Behrend announced that at this meeting no addresses of this kind would be given but a general discussion of conditions and problems would be held in which everyone could take part.

Plenty of Recreation for the Visitors

On Thursday August 27, the entire forenoon was occupied with a general business meeting in the spacious ball room of the Kahkwa Club for the consideration of matters held over from the previous day. Luncheon was served after the visitors had posed for the panoramic group picture which illustrates this account of the proceedings. The afternoon was occupied with recreation and competitions for prizes in such outdoor sports as tennis, golf, bowling on the green and quoits.

Short Talks at the Annual Dinner

The annual dinner in the evening was attended by upwards of 200 persons. Joseph Hanley, postmaster of Erie, made the welcoming address in the unavoidable absence of the Mayor of the city and President Behrend acted as toastmaster. The ball room was gayly decorated with bunting, the flags of the United States and Canada being conspicuous, and the tables presented a festive appearance with snapdragon blossoms and sprays of ferns. There were no set speeches beyond an introductory talk by Mr. Behrend and short talks by Dr. Hugh P. Baker, secretary of the American Paper and Pulp Association, and by Emmett H. Naylor, secretary of the Writing Paper Manufacturers' Association.

Arabian Hospitality

Mr. Behrend said that the preparation for this year's conference had been on a more elaborate scale and entailed much greater labor than those of any previous year. Fresh from the reading of Paul W. Harrison's book **The Arab at Home**, he quoted from memory an incident in the book and illustrated Arabian hospitality. In Arabia, he said, the poor as well as the rich recognize the sacredness of the bond of hospitality. He told of a thief who broke into a house at night and after looting the place found a small gold box which seemed very valuable. After some efforts he was able to open it. It contained a box similar in character but smaller, and this when opened held a third. After a number of boxes had thus been removed, the inner casket was revealed, and it contained some fine white powder. The thief was very curious to know what sort of powder was preserved with such extraordinary care, so he tasted it. It was salt.

Salt is the bond of hospitality in Arabia, and the robber, having thus unwittingly partaken of the hospitality of the house, immediately replaced all the stolen articles and left. Robbery was nothing to his conscience, nor murder if it should prove to be necessary, but, Mr. Behrend said, he was not so abandoned a criminal as to break the laws of hospitality.

Dr. H. P. Baker Speaks

After reminding his audience that they had heard a good deal during the business sessions from the president of the American Paper and Pulp Association (Norman W. Wilson) he said he would now call upon the secretary of that association to say a few words, and Dr. Hugh P. Baker responded with a splendid tribute to the great Hammermill organization,

Members of the Hammermill Agents' Association in convention

followed by a fairy tale of the spruce tree bearing on the manufacture of Hammermill bond.

Emmett H. Naylor's Tribute to Hammermill

Following Doctor Baker, Emmett H. Naylor, secretary of the Writing Paper Manufacturers' Association, said that in his twelve years of intimate contact with forty-eight other companies comprising the association of which he was secretary, he had never heard a word of adverse criticism concerning the Hammermill Paper Company or its policies. This was considered a unique circumstance by Mr. Naylor and greatly to the credit of Mr. Behrend and his associates. Mr. Naylor concluded a brief but interesting talk by saying that he brought to the conference the good will and good wishes of the Hammermill Paper Company's competitors in the field.

Fun and Jollity at the Dinner

Mrs. Brevellier, the "Erie nightingale," was asked to sing and she responded with a selection from Rose-Marie which was rapturously applauded and brought several encores.

There was much fun and jollity during the progress of the dinner, with impromptu singing and music. Mr. Behrend told the audience that the management had fooled them for, instead of coming to a paper convention, they had all the treat of a Metropolitan Opera evening. Joseph Johnston sang "My Hero" with splendid effect and A. B. Sherrill and E. A. Petrequin gave several selections, being prominent among those who entertained the visitors. John D. Swigart, of the Swigart Paper Company, Chicago, made the hit of the evening by singing at intervals with variations the following verse:

How do you do, Mr. Behrend, How do you do?
For in everything you do, Mr. Behrend,
You are always loyal and true, Mr. Behrend, How do you do?

Sandy Epley, Mr. Behrend and Wash. Chabot were named in variants of the lines and the Marseillaise was played out of compliment to Mr. Chabot.

Distribution of Sports Prizes

Then came the distribution of prizes to the winners of the various sport tournaments held on Wednesday and Thursday. In golf, George Webb, of Storrs & Bement Company, New Haven, Conn., was awarded the big prize of the evening, a leather caddy bag for low gross (88) in golf. B. E. Reeves, of the Alling & Cory Company, Rochester, N. Y., won a pair of matched golf clubs for first low (72) net prize, while the second low net, a leather golf coat, went to A. B. Sherrill, of Riegel & Co., Inc., Philadelphia. In the putting contest, E. A. Petrequin, of the Petrequin Paper Company, Cleveland, Ohio, carried off the only prize of one dozen golf balls.

The champion tennis player was announced as Ernest Mead, of the Richmond Paper Company, Richmond, Va., who was awarded a cigar and cigarette humidor. The runner-up in tennis was H. L. Carter, of Carter, Rice & Co., Boston, who won a Thermos desk set.

Out of compliment to Colonel James Logan, of the U. S. Envelope Company, Auld Lang Syne was sung by a volunteer orchestra headed by John D. Swigart, and this terminated the proceedings of the second day's session.

A Late Business Session

Another business session held on Friday at the Kahkwa Club was extended long far beyond the luncheon hour of 12:30 o'clock, the members not taking their seats at table until 2:30 p. m. Luncheon over, the visitors competed for more prizes in outdoor sports and late in the evening it was announced that John R. Hauser, of the Durico Paper Company, Erie, Pa., had won the prize of an auction bridge set for proficiency in bowling on the green. F. J. Weissinger, of the Dudley Paper Company, Lansing, Mich., won a domino set at quoits and a special prize was given to E. T. Mudge, 2nd, of the O. F. H. Warner Company, Baltimore, for being runner-up in both quoits and bowling on the green.

The golf tournament on the last day of meeting was won by R. S. Bull, of Bradner Smith & Co., Chicago, the award being a Hagen silver putter for low gross, while Robert Johnston, of the Old Dominion Paper Company, Norfolk, Va., carried off a traveling bag as the prize for low net, the second low net, with a prize of matched clubs, being awarded to M. H. Moore, of the Clements Paper Company, Nashville, Tenn. In the putting contest on the last day of meeting, A. M. Miller, of the Central Ohio Paper Company, Columbus, Ohio, won the prize of a dozen golf balls.

Upon registering, every visitor to the conference was presented with a souvenir in the shape of a serviceable camper's knife, equipped with cork screw, can opener, screw driver and other useful parts. Members of the Old Guard who had attended fourteen consecutive meetings received in addition a silver pencil.

Attractive Exhibits

Some attractive exhibits were arranged in the entrance hall and anterooms of the Kahkwa Club. Thus there was an exhibition of fifty of the best pieces of printing that have been produced in America during the past eighteen months.

Much interest was taken in an exhibit of papeterie of Hammermill make, shown in new and attractive designs by the White & Wyckoff Manufacturing Company, Holyoke, Mass., converters of the Hammermill lines. Another novelty of Hammermill make was a new line of deckle edge announcement cards with envelopes for business purposes which was shown by the P. P. Kellogg division of the U. S. Envelope Company, Springfield, Mass.

Durability Test for Hammermill Bond

Convincing evidence of the durability of Hammermill bond was given by the exhibition of a single sheet of 16-pound paper made at Hammermill in 1901, or twenty-four years ago. This sheet weighing 1/16 of an ounce was suspended from a clasp and attached to it by another clasp was an official weight of 25 pounds, such as is used by the sealers of weight and measures in testing scales. In supporting 25 pounds, or 6,400 times its own weight, this sheet of paper, 25 years old, gave proof of the justness of the claim made for Hammermill bond that it is as strong and lasting as linen.

at the Kahkwa Club, Erie, Pennsylvania, August 27, 1925

Underfeed Stokers at Northwest Paper Co.

Some very satisfactory installations have been made with underfeed stokers for burning straight wood, straight coal or a combination of both fuels at the same time.

An outstanding installation in the paper industry is that of Detroit multiple retort underfeed stokers in wood burning furnaces at the plant of the Northwest Paper Co., Cloquet, Minn., under 834 H. P., Stirling water tube boilers. At this plant the boilers are operated either with straight wood or a combination of wood and coal, or with a straight coal fire. The equipment is arranged so as to burn efficiently either fuel and so that a change can be quickly made from one fuel to the other. The walls are made of hollow construction and are connected to the forced draft fan. Dampers are provided to the ducts in the sections in these walls for regulating the air supply above the fuel bed. Instruments are installed which continuously indicate and record the conditions under which the boilers are operating and guide the fireman in the proper and intelligent operation of the boilers.

Results of Various Tests

Following are results of a straight coal test; a straight hogged wood test, and of a test with a combination of wood and coal.

Boiler make: 834 H. P. Class 13, No. 30, Stirling with 8,340 square feet of water heating surface and 2,264 square feet of integral economizer surface.

Stoker: Nine retort Detroit multiple-retort underfeed set in extension wood burning furnace.

Conditions: Normal operating load.

Fuel	Coal	Wood	Coal and Wood
Duration, hours	20.0	5.55	7.42
Steam pressure, pounds	150.9	148.6	153.9
Superheat, degrees F	107.2	128.4	129.8
Feedwater temp., degrees F	168.8	169.1	167.1
Flue gas temp., degrees F	466.2	490.9	498.1
Pressure in air chamber, inches	2.87	1.01	1.33
Draft at damper, inches	0.74	1.00	1.16
Furnace draft, inches	0.16	0.06	.10
Carbon dioxide, per cent	13.1	16.4	16.26
Oxygen, per cent	6.3	1.5	2.03
Carbon monoxide, per cent	0.0	1.6	0.6
Proximate analysis—as received:			
Moisture, per cent	6.72	58.1	60.0
Volatile matter, per cent	31.78	34.35	32.56
Fixed carbon, per cent	49.48	6.53	6.43
Ash, per cent	12.02	1.02	1.01
Sulphur, per cent	1.08	.....	.....
B. T. U. as fired	12,056	3,794	3,638
Dry	12,925	9,054	9,095
Ultimate analysis—dry:			
Carbon, per cent	70.96	49.5	49.5
Hydrogen, per cent	5.44	6.0	6.0
Oxygen, per cent	8.14	41.2	41.2
Nitrogen, per cent	1.44	1.0	1.0
Sulphur, per cent	1.10	.....	.....
Ash, per cent	12.92	2.3	2.3
Coal burned per hour, pounds	5,215.8	.....	1,016
Wood burned per hour (approx.) cubic feet	.....	1,428	836.9
Coal burned per sq. ft. grate, pounds	35.9	.....	6.99
Horsepower developed	1,514.9	1,450	1,583
Boiler rating, per cent	181.6	174.0	189.8
Test No. 2			
Heat absorbed by boiler, per cent	80.66	51.4	60.65
Loss due to moisture in fuel, per cent	0.68	18.9	16.30
Loss due to hydrogen, per cent	4.60	7.6	7.24
Loss in dry flue gases, per cent	8.87	7.6	8.83
Loss in unburnt CO, per cent	0.00	5.5	1.98
Loss in combustible refuse, per cent.	2.38	0.0	0.0
Radiation and unaccounted, per cent	2.81	*7.0	*5.00

For the coal burning test the boiler was operated at 205 per cent of rating during the first 10 hours and at 158 per cent of rating for the last 10 hours. For the wood burning tests it will be noted that the moisture in the wood was 58.1 and 60 per cent. Better results were obtained in the coal and wood test than with the straight wood test; although the coal fired was only 5 per cent by weight of the total fuel burned.

*Assumed.

Cowan Paper Shipping Skid

A brief description of the Cowan Paper Shipping Skid, which is revolutionizing the shipping of paper stock from mill to printing and converting plants, follows:

One handling from freight car to press or storage

The paper shipping skid complete with top board to suit, for example, paper stock of 39½x52 inches, is made with Cowan L Section feet, with runners projecting sufficiently to receive through bolts. The decking is bound on all four sides with angle iron; the top smooth with no air spaces between boards. The top board is made approximately the same dimensions as the platform, bound on all four sides with angle iron, and stiffened lengthwise by channel irons to which the boards are bolted, and through which the connecting bolts pass. Across the middle of the bottom skid and top board is another channel strip for two additional through bolts holding top and bottom. The bolts are made of sufficient length to enable the shipper to pile 24 reams, or 39 inches height of paper. The weight of this complete combination is approximately 300 pounds.

These skids can be made in any size or weight and for use with any height of band or electric lift truck.

One of the big advantages of this type is that it permits the shipment of about six times as many reams of paper as the ordinary case, eliminating the average casing charge, and assuring the paper arriving at destination, at the same time, in perfect condition. These skids ride perfectly in freight cars, and a certain number of skids make up a carload shipment.

Empty skids are shipped back to mill, and construction is rugged enough to stand many trips. The consignee saves in handling and spoilage due to one package taking the place of several cases.

Another big advantage is the fact that paper is handled only once by the consignee, and that is when taken from freight car to press or to storage.

Complete information on the application of the Cowan System to your plant will be gladly furnished upon request of the Cowan Truck Co., Holyoke, Mass.

Improvement in Damper Regulator

The patent that has just been granted the Locke Regulator Co. (July 31, 1925. Serial No. 745653) is an improvement over one of the most important parts of the Locke Damper Regulator.

It consists of a guide post with a pivot or toggle that carries the main lever. Heretofore, when the pressure was shut off from regulator, diaphragm moving downwards carrying

the toggle would sometimes come back, leaving the toggle on the side of the lever, causing poor regulation and possibly damage.

This new improvement prevents all of this by keeping the lever in correct position.

Direct Motor Driven Knife Grinders

The Samuel C. Rogers & Co., 2 Lock Street, Buffalo, N. Y., pioneer manufacturers of automatic knife grinders, have just placed on the market a direct connected motor driven grinder. The illustration herewith shows a small 26" type "F" machine. This is one of the types used in the lumber producing and wood using industries as well as small printing plants.

The largest type "B" automatic grinder, which is massive in general design and construction, is especially adapted for grinding heavy and long chipper and paper cutting knives, used in paper mills.

Direct connected motor driven knife grinders have several advantages over the belt-driven types. Overhead shafting and belts are entirely eliminated. Motor drive produces a driving efficiency of 100 percent because the motor is an integral part of the tool. A motor mounted on the shaft, driving the grinding wheel, insures a positive fixed speed, producing a free cut—yet with that gentle action so necessary on a delicate knife edge.

The starting switch is attached to the grinder directly under the motor, which eliminates unnecessary wiring and is convenient for the operator. Standard motors are used.

The Samuel C. Rogers & Co. are inventors of saw and knife fitting tools. Recent installations have been made at the plant of the National Paper Products Co. at Carthage, N. Y., and at the new plant of the Louisiana Pulp & Paper Co. at Bastrop, La.

A New Material Handling Unit

The Elwell-Parker Electric Company, Cleveland, O., have placed on the market during the past year a new tool designed primarily for the sheet and tin plate industry, but the field has now broadened, so that they are offering it not only to handle sheet metal, but bales, barrels, bags, export cases, newsprint, roofing paper, or any oddly shaped, bulky article.

The unit is driven by electric motor, receiving power from battery carried. All four wheels steer, so tractor can be turned on congested floors. All standard Elwell-Parker safety features are incorporated. All wheel and motor bearings are ball or roller type. Capacity is 3,000 to 5,000 pounds.

Coe Manufacturing Company Move Chicago Office

The Coe Manufacturing Co. of Painesville, Ohio, manufacturers of the Continuous Roller Dryer for heavy boards, announce the moving of its Chicago Office to Room 1510 Conway Building, 111 West Washington street. The Conway Building has long been noted as headquarters for the paper and board industry.

This office is in charge of Mr. H. R. Masters, who has been associated with the Coe Manufacturing Co. for five years as special drying engineer and is well known in the industry. Previous to that time he was manager of the drying department, western division, of the B. F. Sturtevant Co., Boston, Mass., specializing in paper mill installations.

New Rosin Size Plant

The Kalbfleisch Corporation have enlarged their New England plant by installing a rosin size unit at the Waterbury, Conn., works, and operations began on September 1. The New England paper mills have heretofore been supplied rosin size from the corporation's factory at Erie, Pa., but increasing business in the New England territory has made it necessary to install a plant in that section. This is the third rosin size unit to be opened by the corporation, the other two now being operated at the Erie, Pa., and Kalamazoo, Mich., plants.

Mr. C. H. (Bert) Kent, who has been associated with the Kalbfleisch Corporation for about a year, and has handled the rosin business in the New England territory, with headquarters at Springfield, Mass., will move his office from Springfield to Waterbury, Conn., where he will be able to give personal attention to the manufacturing and selling of this product.

Mr. Kent has been associated with the New England mills for the past fourteen years in supplying rosin size, and while his many friends in Springfield regret that he is to move his headquarters, they are pleased that the broader field made possible through this new plant will react to his benefit.

The Kalbfleisch Corporation operate under the patent, formulae and methods of the Process Engineers, Inc., who have been for years well and favorably known in the paper industry as leaders in the development of size.

New Catalogs, Booklets, Etc.

The Borden Company, Warren, O.—A neat 4-page folder which illustrates new Beaver power drive for cutting and threading pipe.

Chicago Belting Company, 113 N. Green St., Chicago.—An announcement of Mr. Franklin Frothingham's joining this company is neatly printed in brown and black on tinted deckle edge paper. Mr. Frothingham is New England sales manager and has been respectively; sales manager for the American Felt Co., New England publication manager for Curtis Publishing Co., president of the Boston Equipment & Supply Co., and president of the Boston Sales Company.

L. H. Gilmer Company, Philadelphia.—A 20-page booklet on endless belts illustrates with photographs many exceptional drives where small belts have been applied. Discussions include belt speeds, ratio of pulley diameter to belt thickness, take-ups and crowning.

National Safety Council, 168 N. Michigan Ave., Chicago.—The 1926 Safety Calendar presents a different art picture with each month. Beautiful pictures in colors illustrate some form of accident prevention for each month or else extend a season's greeting. The back of the calendar leaves are used for lessons in first aid treatment. The subject is carefully covered in twelve parts.

Republic Flow Meters Company, 2240 Diversey Parkway, Chicago.—A four-page circular in two colors cleverly illustrates the construction and some applications of the new Republic electrical level and pressure indicator and recorder.

Westinghouse Co. Issues New 1925-27 Catalogue

The Westinghouse Electric and Manufacturing Co. is distributing its new 1925-27 Catalogue of Electrical Supplies. The catalogue presents a complete representation of the apparatus manufactured by the Westinghouse company, or obtainable through its district offices or agent jobbers, and gives detailed information on electrical supplies.

The publication, which contains 1,200 pages and is profusely illustrated with 4,500 engravings, lists all new apparatus designed and manufactured in the past two years, as well as all the previous established types.

Four indexes for the convenience of the user have been included in the catalogue. A very complete subject index in the front of the book is printed on blue paper so that it can be quickly located, and a style number index for checking invoices is located in the back of the book. A classified index under such classifications as central stations, electric railways, industrial plants, mines, etc., gives a complete list of apparatus applicable to each of these groups of industries, and the thumb index enables the user to locate any section of the catalogue with the least inconvenience.

C. W. Lyman Resigns

Announcement was made on August 26 of the resignation of C. W. Lyman as vice president of the International Paper Company, with main offices in New York. Mr. Lyman will be succeeded by J. L. Fearing, who is at present sales manager of the company, and who is a former president of the Salesmen's Association of the Paper Industry. Mr. Lyman remains as a director of the company.

At the directors' meeting of the I. P. Company on August 26 regular quarterly dividends of 1¾ per cent on its 7 per cent preferred and 1½ per cent on its 6 per cent preferred stock were declared, payable October 15 to stock of record October 1.

News Briefs from Washington

Some Consular Reports

Reports from the Consuls and Commercial Attaches of the Department of Commerce received during the past two weeks emphasize the following conditions in the paper industry abroad:

Conditions in the Italian Paper Industry.—Of late months there have been reports of some labor unrest in the paper industry and a number of strikes for higher wages have occurred in some of the largest plants which have been settled by advances in pay. Prices of paper have been firm and have had a rising tendency. Both imports and exports of paper so far this year have run below 1924 records for corresponding periods, due to the fact that the domestic indutsry is supplying a larger part of the home demand than formerly. This is especially true of newsprint. On the whole, the paper trade of Italy appears to be prosperous althongh there has been some complaint about recent exchange rates increasing the cost in lire of raw materials, which must be imported in large quantities.

French Papeterie Industry.—The mills in the Angouleme district producing boxed writing paper and envelopes are reported to consider the prospects for 1925 very favorable, the volume of business in some lines having been greatly in excess of that of the same period in 1924, according to a report from Consul Davis B. Levis, La Rochelle. The bulk of the writing paper and envelopes produced in this section are absorbed by the domestic market, but an appreciable amount is nevertheless available for export. One firm reports that a new market for their product has been opened in Haiti with an encouraging outlook for future business.

Improvement in French Cigarette Paper Industry.—The cigarette paper industry in the Angouleme district, which has been suffering from a severe depression since last October, reports a turn for the better during the past two months, according to Consul Davis B. Levis, La Rochelle. Recent efforts to obtain orders in the United States, however, have been without results, brokers reporting that considerable stocks are on hand. The amount and value of the cigarette paper production in this section is not obtainable, but it is estimated that only about 30 per cent is sold in France, the balance going to foreign markets.

French Imports During First Half of 1925.—Imports of paper and paper products into France during the first 6 months of 1925 have kept pace with those of the preceding two years. The total receipts during that period amounted to 73,643 metric tons as compared with 71,807 metric tons in 1924 and 71,-034 metric tons in 1923. Norway and Sweden have been the main sources of supply for that class of paper known as "machine made, of more than 30 grams per square meter in weight." The United States supplied most of the fancy paper and board imported as well as of vulcanized board and cardboards cut to shape.

Increasing Imports of Paper into Germany.—Imports of paper into Germany during the first four months of this year have been steadily increasing, rising from 247 metric tons in January, 345 tons in February, 388 tons in March, to 481 tons in April. Exports on the other hand have dropped from 30,166 tons in January to 28,309 tons in February, rising slightly in March to 28,817 tons and dropping again in April to 24,353 tons.

Fire Damages Norwegian Paper Factory.—Early in July a fire partially destroyed Skiens Papirfabrik at Skien, Norway, causing damage estimated at about 300,000 crowns ($55,500).

Swedish Pulp Sales.—The American Consul at Oslo, Sweden, reports that Swedish pulp mills have sold about 85 per cent of the calculated production during the first 6 months of 1925, the heaviest buyers being Great Britain and the United States. Continental countries purchased only sufficient for immediate requirements. It is also reported that deliveries of bleached sulphite to both French and Italian artificial silk factories have been considerable. During the second quarter of the year the paper market was dull owing largely to an increase in prices caused by current labor difficulties.

Bureau of Standards Complete Esparto Tests

The Bureau of Standards has recently completed a series of tests of esparto pulp imported from southern Europe. This paper making stock is practically new to the mills of the United States in a commercial way. Abroad, esparto is known for its fine paper-making qualities, and it can now be delivered partially pulped to American mills at attractive prices. The tests made seem to indicate that it is worth additional consideration in American paper making. The Bureau of Standards has made up on a semi-commercial scale samples of the esparto papers from the imported stock, the laboratory tests of the finished product now being ready for the American industry. The bureau reports that the imported samples of partly pulped esparto gave, after cleaning, a 60 per cent yield of paper-making fiber, and that the resulting paper was stronger than that made from soda pulp. In view of its superior reputation for superior printing qualities and suitability for book making, its possible introduction will be awaited with interest by the paper and printing trades.

The Bureau of Standards has completed additional tests of waterproof paper destined for use as case linings in overseas shipments. It was found that the most satisfactory results were obtained by the use of a lining paper consisting of two sheets of 30-pound No. 1 kraft cemented together with a layer of asphaltum, the finished product having a weight of 90 pounds per ream of 480 sheets 24 by 36 inches in size. Previous tests for determining water resistance were found to be unsatisfactory because the exudation of moisture was sufficiently slow to permit complete evaporation before it could be detected. With the ground glass method, however, it was determined that the average asphalt waterproofed paper gave no transudation in 24 hours and that the asphalt lent an appreciable amount of strength to the paper. The final specifications of paper giving satisfactory results are as noted above, with the addition of a bursting strength of 70 points.

Department of Commerce Issues Industrial Surveys

The Department of Commerce has just issued the second and third of a series of industrial surveys intended to cover all of the paper manufacturing countries of the world. The two at hand contain detailed and up to date material on India and the Dominions of Australia and New Zealand. These surveys contain not only a statement as to the mills in operation and the condition of the industry, but also a summary of the country's resources, exports and imports of pulping materials and pulp wood, pulp and paper, and information on governmental policy from which may be deduced an idea of the future prospects of the industry in those countries. Material covering other political divisions of the world will be published at irregular intervals as it becomes available. Copies can be obtained free of charge upon application to the Paper Division of the Bureau of Foreign and Domestic Commerce at Washington.

The Bureau of the Census has just issued the section of the Census of Manufactures of the United States for 1923 (the last biennial census) relating to paper and wood pulp. General statistics of the industry, products, equipment, and personnel for the United States and the individual States for various periods from 1914 to 1923 are given in detail.

Wisconsin News

September 1, 1925.

Power Development in Legal Tangle

Development of a $1,000,000 water power and transmission line project by the Northern Paper Mills of Green Bay is at present involved in a legal tangle in Brown and Oconto counties.

The opposition brought by the Wisconsin Public Service Corporation of Green Bay is directed not so much against the paper mill as against the Wisconsin Gas and Electric Company, a subsidiary of the North American Co., which is planning to use one side of the towers of the line to be extended by the Northern from White Rapids, 40 miles north of Menominee, Mich., to its mills at Green Bay.

In condemnation proceedings instituted by the W. G. & E. to acquire lands in the two counties, attorneys for the Green Bay power line termed the joint project an "invasion of territory" which the latter concern claims under the state public utility law. Under a contract between the paper mills and the W. G. & E., an interchange of power in cases of emergency is provided for.

The Northern Paper Mills have secured 67 per cent of the right of way through Oconto county and 80 per cent of the total right of way for the line between Green Bay and White Rapids. An early decision is expected in the courts in the condemnation proceedings.

The Fox River Paper Company, of Appleton, has begun the construction of an addition to its settling basins. The new unit, built at a cost of about $18,000 will increase the settling capacity to 6,000,000 gallons of water per day and will give the basins a retention of 4½ hours. A complete filter plant also will be built in the near future.

Appleton Mills and State Clash Over Dam

Paper mills and allied industries using the so-called "middle" dam in Appleton are fighting a legal battle to retain possession of it, rather than surrender it to the state under the "recapture" clause of the statutes.

The dam was built 48 years ago through public subscription, and the half dozen plants utilizing it for water power have maintained it ever since. They are planning to reconstruct it at a cost of about $50,000 and raise it to conform with new levels made on the government locks and canals.

The state railroad rate commission has refused to issue the permit for the project unless the dam owners submit to the recapture clause, by which the state reserves the right to take over dams and water power after the expiration of 30 years and pay for them on the basis of present-day appraisal. The matter will come up before the supreme court this fall.

Kaukauna Leases New Power Plant

The city of Kaukauna supplying power through its municipal plant to all its paper mills and the Combined Locks Paper Co. at Combined Locks has taken a 20-year lease on a new power plant about to be constructed at Rapid Croche, five miles east of that city, by the Green Bay & Mississippi Canal Co., of Appleton.

The city has in the past not had adequate power to supply the mills and city consumers and therefore has purchased additional power from the Wisconsin Traction, Light, Heat & Power Co., at Appleton. The new plant will increase Kaukauna's supply of horsepower from 10,000 to 14,000. It is said that the city will thus save more than a half million dollars during the period of its lease. Permits for the construction of the plant was recently granted by the war department.

Power will be furnished the city by the new plant about 70 per cent of the time. A new transformer substation in Kaukauna will furnish power during the remaining low water period of the Fox River. The new power plant will be in operation by March, 1926.

A big consolidation of power lines was effected recently when the Insull interest, Chicago, took over seven lines in central Wisconsin including such cities as Wittenberg, Eland, Birnamwood, Elderon, Mattoon, Aniwa, Phlox, Pella, Leopolis and Clintonville. They interconnect with the Wisconsin Valley Electric Co., Wausau, and 14 water power plants, some of which are owned by paper mills. The Wausau company recently acquired the Waupaca Electric Service and Railway Co., at Waupaca.

New Mill for DePere

Another paper mill will be in operation in DePere, Wis., before long. Maurice Miller, of Green Bay, who recently acquired the J. F. Davis Sons Co. boiler works in that city is installing a Fourdrinier, 26-dryer paper machine with a 72-inch trim. The plant will start on a small scale manufacturing crepe paper, toilet paper and paper toweling. Another machine will be installed later. About 20 men will be employed at the start.

Pulp will be furnished by the DePere Pulp & Paper Co., which Mr. Miller started a few months ago in a former flour mill. An additional beater will be built increasing the number to four. An elevator for handling waste paper and finished pulp will be built, and an 800-foot water line will be extended from the Fox River. The waterwheels were overhauled recently to increase the efficiency from 25 to 35 horsepower.

A Chicago office will be opened soon by the Peshtigo Paper Company, of Peshtigo, which is in process of reorganization. It will be in charge of R. G. Swan, assistant general manager of the concern, and Miss Ruth Neumann, for many years an office employe of the firm. Mr. and Mrs. Swan will reside in Chicago.

The Menasha Printing & Carton Co., of Menasha, recently acquired the Ashland Paper Mill bought a year ago by T. A. Shaw & Co., Chicago, at a bankrupt sale. Operations will be continued.

Michael J. Powers, Nekoosa, has obtained a United States patent for his bark compressing machine which is being manufactured in Canada and the States. Canadian patent rights were secured earlier. The device compresses 30 to 40 per cent of the water out of the bark and is said to save about $75 on 100 cords of wood. The Consolidated Pulp and Paper Co. has one in operation at its Interlake Pulp and Paper Mill in Appleton.

Kimberly-Clark Safety Record

Kimberly-Clark Company's mill at Kimberly has made an enviable record for safety this summer. On Aug. 22, it had operated a total of 127 consecutive days or, figured on the basis of man-power, 115,616 man-days without losing a minute on account of accidents. It thereby passed the record established by its Niagara, Wis., mill with 97,800 man-days. The latter plant had operated 150 consecutive days without lost-time accidents. It had previously claimed the world's record for the greatest number of safety man-days. This record now claimed by the Kimberly plant is disputed by the Mead Pulp and Paper Co., Chillicothe, O. The Ohio mill wants records computed on the basis of long-time operation with the least number of days lost and the least amount of wages lost and the smallest cost of accidents to the company. The Mead mill operated 1,055,909 man-hours with only two lost-time accidents.

Superintendents to Visit Forest Products Laboratory

The Northwestern Division of the Superintendents Association will hold a meeting at Madison and Beloit, Wis., Sept. 18th and 19th. At that time an inspection will be made of Forest Products Laboratory and a visit to Beloit Iron Works and the Beloit Box Board Co., Beloit, Wis.

At one of the meetings, a paper will be delivered on "The Effect of Cooking Upon Yields and Quality of Sulphite Pulp," by Mr. Miller of the Laboratory Staff. There will also be many subjects of interest brought up for discussion.

One of the biggest boats seen entering the port at DePere on the Fox River in a long time last week delivered a cargo

WASTE! MUST STOP!

Many a mill is constantly confronted with the bugbear of high costs resulting from "broke" losses, time out, repairs and unproductive hours. Waste, waste, waste! No wonder that executives from every field have joined together to stop these avoidable losses.

The solution often lies in obsolete equipment. The railroads saved upwards of thirty million dollars last year by discarding old-type locomotives for modern ones. Many board mills have solved the problem by adopting the modern **"Beloit" Cutter with Slitter Attachment**—a mechanism that needs but the swing of a lever to change widths, thus saving huge quantities of "broke" with each change in their slitters.

Five orders from one mill alone, batteries of three to four in many others, and single units in scores of mills prove the efficiency of the "Beloit."

It will pay you to get the facts. Ask for Special Bulletin.

The BELOIT Cutter

WITH SLITTER ATTACHMENT

Beloit Iron Works **Beloit, Wis., U.S.A.**

SINCE 1858 BUILDERS OF BOARD MILL AND CONTAINER PLANT MACHINERY

of 2,500 ton of coal to the American Writing Paper Co. The vessel, the John F. Kling, originally had a load of 7,500 tons, but left a part of it at Menominee, Mich., and a part at Green Bay, Wis.

W. A. Ferguson, superintendent of the George A. Whiting Paper Co., Menasha, died last month. The mill shut down a half day out of respect to the official.

With so many of its employes using automobiles to take then to work, the John Strange Paper Co., Menasha, has had to open up a tract of land for parking space.

Several workmen narrowly escaped serious injury recently when two big boilers being installed in the Lakeview Paper Co., Neenah, collapsed and crashed a large hole in the power plant.

Michigan News

September 1, 1925.

Central Paper Co. Celebrates 25th Anniversary

On August 1st, the Central Paper Co., of Muskegon, Mich., celebrated their twenty-fifth anniversary by giving a picnic for their employees and families at Recreation Park. Over 1,400 people were present and took part in the various ball games, races and other entertainments, and prizes were awarded to the winners of the different events.

The main event of the day was an address by Mr. E. Meurer, president and general manager of the Central Paper Co., in which he pointed out his reasons for selecting Muskegon as a logical place for a paper mill, due to its transportation facilities and central location in a paper consuming territory. He also thanked his associates and employees for their loyal cooperation and service. After his address Mr. Meurer presented a beautiful medal to twelve of the old employees in consideration of their 25 years of faithful service.

Mr. Meurer, one of the pioneers of the paper industry, after having built several pulp and paper mills in the East and Canada, organized the Central Paper Co. of Muskegon in 1899 and started actual operation in August, 1900, with a 40-ton sulphite mill and a 132-inch Fourdrinier machine. The second machine was added in 1904, a third one in 1913, and in 1923 a Bagley & Sewall 160-inch thousand-foot machine. In the fall of 1908, Mr. Meurer started building the first sulphite mill in the United States, and the first kraft pulp was made on September 14, 1909.

Harry Urich

The many friends of Harry Urich, superintendent of the MacSimBar and Wolverine Paper Companies, at Otsego, were shocked to learn of his tragic death Sunday morning, August 23rd. His lifeless body was found beneath the balcony of his residence at 5:25 Sunday morning, with neck broken, skull fractured and eyes blackened, his friends have done little else than discuss his tragic passing from amongst them.

As no money was found in Urich's pockets, when he was always known to carry considerable sums with him, and with so many injuries, it leaves a suspicion of murder. The coroner and the sheriff have investigated, but nothing has developed so far to give further evidence of foul play.

According to evidences, Eurich attended a stag party in Kalamazoo Saturday night, and returned with companions who had attended the event. Sleeping in another portion of the Eurich residence Sunday night, were John Oswald, pitcher for the Otsego ball team, and Harry Lunger, close companions of Eurich, and his wife. None of them knew anything of his tragic death.

The funeral was held under the auspices of White Pigeon Masonic lodge, of which he was a member. The rites were held in the late residence, and burial in Mountain Home Cemetery, Otsego. During the services, the mills and business houses in Otsego remained closed.

Eurich was a very popular man, making friends wherever he went. Coming to Otsego seven years ago from White Pigeon, he renewed the interest in baseball, and helped put the team on its feet. Besides being superintendent of the MacSimBar and Wolverine Paper Companies, he was vice president of the Western Board Division of the Superintendents' Association.

Woodbury Ransom

Woodbury Ransom, 52 years of age, died at his home in Short Road, Kalamazoo, August 25th. Mr. Woodbury Ransom was a life long resident of Kalamazoo, being the grandson of Jason Woodbury, the founder of the paper industry in Kalamazoo. Mr. Woodbury was one of the first investors who realized the wonderful possibilities of Kalamazoo as a paper manufacturing center, and invested heavily in these enterprises.

Mr. Ransom was born in Kalamazoo and graduated from the public schools. His first business experience came as a clerk in the old Michigan National bank. With the death of his father, he was elevated to seats in many directorates, among them being that of the First National bank, Kalamazoo Paper Company, Kalamazoo Stove Company, and many others. In practically every paper concern in the Kalamazoo valley, he was very heavily interested financially.

He married Miss Lillian Ihling, daughter of Mr. and Mrs. Reinhold Ihling. To this union were born two sons, Woodbury and Allen. In addition to the members of the immediate family above named, Dwight R. Curtenius, cousin, and secretary-treasurer of the Kalamazoo Paper Co. was the only near relative in the city at the time of Mr. Ransom's death.

The funeral was held from the home on August 27th; interment in Mountain Home Cemetery.

Clay for Michigan Mills Coming by Water

The steamship "Perje" has just unloaded at Michigan City approximately 2,000 tons of English china clay, consigned to coating mills in this section of the country. Ten carloads were delivered to the Watervliet Paper Company, and the rest was scattered out throughout the valley. Local mills consume 4,000 tons of English clay annually.

When the new Welland Canal is completed, practically all the foreign shipments to local mills will be either unloaded at Toledo or Michigan City, depending on the size of the boats. Toledo is featuring itself very widely as the future world's port.

Mr. Chas. G. Oberley, who has been the general manager of The Munising Paper Co. the past ten years, resigned his position May 20, on account of failing health. He will retain his holdings and remain a director of the company. Mr. Oberley leaves Munising, Mich., October 1, and will locate in Minneapolis, Minn., permanently, where he recently purchased a residence.

Changes in the Bryant Organization

Allan Milham, for the past five years purchasing agent for the Bryant Paper Co., has been promoted to the position of assistant to the president, Mr. Felix Pagensteecher. George Hendricks, assistant purchasing agent, has been advanced to purchasing agent.

Mr. Pagensteecher held the position as assistant to the president when he first joined the Bryant Paper Co., being advanced from this to manager, and finally as president and general manager at the death of Frank H. Milham in 1921.

Clarence Sherwood, an employe of the Kalamazoo Paper Co., was injured recently in a fall from an elevator in the mill. Sherwood was taking a truck load of paper to the second floor when he lost control of the truck and it rolled off the elevator, knocking him to the floor.

Mr. George A. Wightman, assistant superintendent at the Hawthorne Paper Co., has severed his connection with that firm to take the postion of superintendent for the Neekoosa-Edwards Paper Co. He takes up his duties September 1st.

George H. Gerpheide, vice president and purchasing agent at the Allied Mills, is passing cigars on a new daughter born August the 19th. She bears the name of Joan.

Proof that
THE LENIX DRIVE
(Trademark Reg.)
Makes Good

Ninety Lenixes assembled for shipment to **one company** on **one order** are shown in one of the photographs below. That purchaser is now using 223 Lenix short center belt drives on installations ranging from 5 to 150 horsepower.

A number of machinery manufacturers and suppliers have adopted the Lenix short center drive as a standard for their equipment.

The second photograph is of a 90 KW alternator drive operating on extremely short centers and installed under difficult local conditions; not an every-day arrangement, but a fine example of what may be done with the Lenix.

Booklet Saving Slippage and Space contains the facts that have induced the installation of thousands of Lenixes, in practically every industry of the country, on drives ranging from 1 to 1400 horsepower.

Send for a copy.

F. L. SMIDTH & COMPANY, *Engineers*
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5 Points

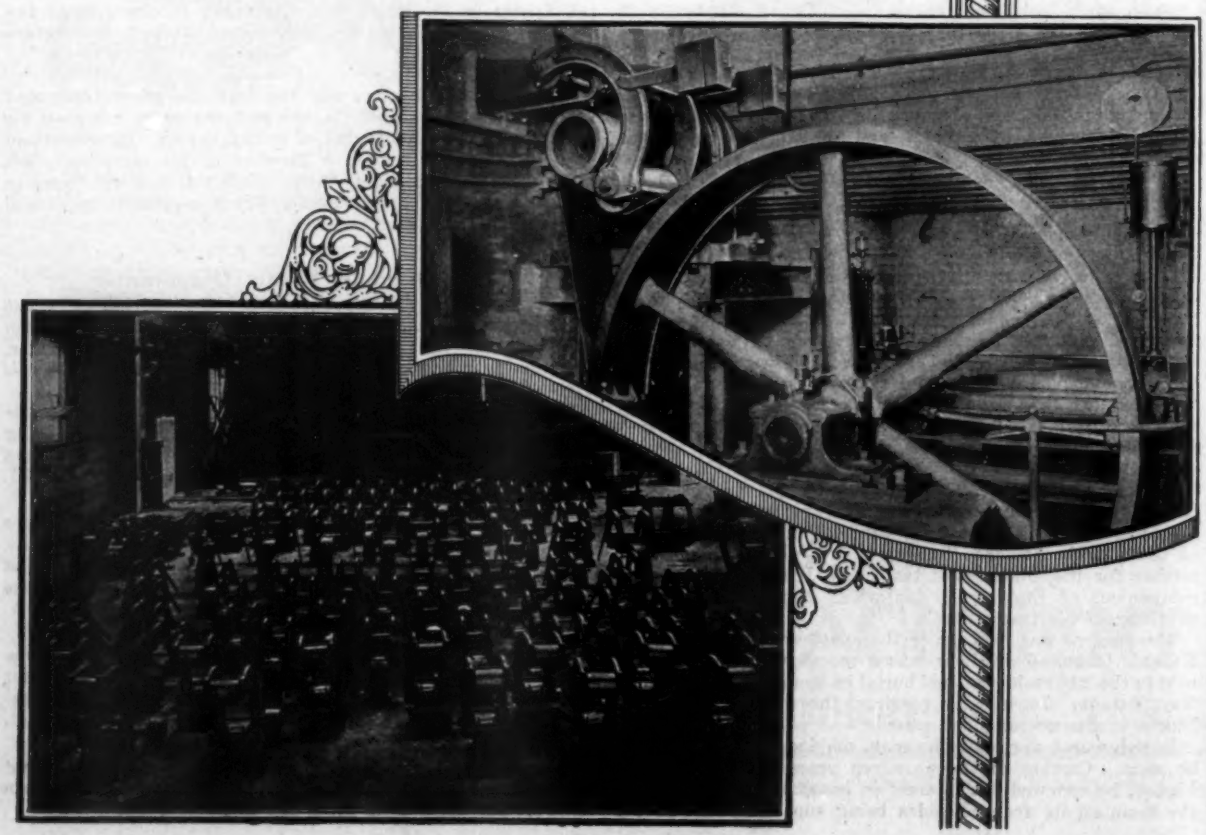
1—The LENIX increases the arc of contact between belt and pulley.

2—The LENIX maintains constantly and accurately the proper tension in the slack side of the belt.

3—The LENIX saves floor space, building space and belting because of freedom in pulley locations.

4—The LENIX saves in bearing friction, lubrication and renewal of bearings because of reduced bearing pressure.

5—The LENIX permits the use of less expensive, high speed and high efficiency motors or generators because of the higher pulley ratios.



Box Board Simplification Saves $5,000,000 a Year

A matter of considerable interest to every wholesale and retail shipper in the country is involved in an action recently taken by a general conference held under the auspices of the Division of Simplified Practice of the Department of Commerce. The conference was attended by manufacturers of box board, box-makers, shipper organizations, and others, and resulted in the adoption of a series of material reductions in the thicknesses of box board.

As is frequently the case, the very rapid development of the box board industry has been attended by a mushroom growth of hybrid practices and customs which bade fair to limit the further growth of the industry, and for the past few years has been actually reducing profits. One of the most objectionable features of this condition was the excessive variety of thicknesses in which the product has been made. It was found that box board in all its forms was being made in some 250 different thicknesses, not a few of which varied from one another by as little as one one-thousandth of an inch.

The gist of the recommendation as submitted by the committee to representatives of all branches of the industry at a general conference called in New York on July 29th was that:

Non-bending boards be reduced from 85 thicknesses to 16; bending boards from 80 to 16; pasted chip board from 25 to 9; container board from 14 to 4; folding box board from 20 to 10; solid manillas from 20 to 5.

The conference unanimously endorsed these recommendations and voted that they should become effective October 1, 1925.

Realizing that improvements never go into effect of themselves, and appreciating that in a live industry changes are inevitable, a standing committee of the industry, under the chairmanship of George W. Gair, Robert Gair Company, New York City, was then authorized and is to be composed of one representative of: American Grocery Specialties Mfrs. Association; Box Board Association; Folding Box Manufacturers' Association; National Association of Purchasing Agents; National Container Association; National Paper Box Manufacturers' Association; National Retail Dry Goods Association, National Wholesale Druggists Association.

This Committee is to supervise the application of the simplified list of thicknesses, to receive such objections to the present recommendations as may develop in the course of the year's tryout, and to bring forth such other recommendations as may be deemed constructive at the annual revision conference.

A. J. T. Taylor Takes Engineers to Sweden

A. J. T. Taylor, A.S.M.E., President, Combustion Engineering Corporation, Ltd., Toronto, is taking a small party of American and Canadian consulting engineers on a trip to Sweden to study the application of the Ruths steam accumulator.

The party leaves by the Majestic September 12th, returning about the end of October. The time will be devoted exclusively to the accumulator and to high pressure noncondensing turbines. The itinerary includes Sweden, Holland and Germany.

Mr. Taylor was a member of the Anglo-Japanese Commission in Sweden last year following the World Power Conference.

D. A. Crocker Becomes Woodlands Section Field Man

The American Paper and Pulp Association has again given unmistakable evidence of its ability to meet an emergency, and act for the perpetuation and promotion of the paper industry of the United States.

Through its Woodlands Section, the Association has employed an experienced forester to study the problems of adequate pulpwood supplies for the paper industry. The Association is to be congratulated on getting a man so slendidly equipped by technical training and wide practical experience, both in pulpwood production and forest management, as Mr. D. A. Crocker, formerly a vice-president of the Eastern Manufacturing Company.

Mr. Crocker knows thoroughly both the management and operating phases of the pulpwood problem. His services will be at the disposal of individual mills or groups of mills to consult with them on problems of forest management, pulpwood production, fire prevention, reforestation, etc.

Mr. Crocker is at present investigating forest conditions in the Lake States, and will shortly prepare a report on this. During the winter he will be working in the South.

The Coming Safety Congress

The program for the fourteenth annual Safety Congress, which will be held at Cleveland from September 28th to October 2nd, presents more than one subject that should be of interest to men in the paper industry.

The meetings of the Paper and Pulp Section of the National Safety Council will begin on Tuesday morning, September 29th, under the direction of Chairman M. G. Hoyman, Safety Director of the Kimberly-Clark Company, Neenah, Wisconsin.

The program is as follows:

First Session

Tuesday Morning, September 29, at 10.00 o'clock, Statler Hotel

1. Reports of Officers and Committees.
2. Appointment of Nominating Committee.
3. Body-Inflicted Accidents—D. B. Davies, General Superintendent, Hoberg Paper & Fibre Company, Green Bay, Wis. —Discussion
4. Safety in Relation to the Future of the Paper Industry —Dr. Hugh P. Baker, Secretary, American Paper & Pulp Association, New York City. —Discussion

Second Session

Wednesday Morning, September 30, at 10:00 o'clock, Statler Hotel

1. Election of Officers.
2. The Nurse's Place in the Reduction of Lost-Time Accidents—Mrs. P. I. Ostrander, Supervising Nurse, International Paper Company, New York City. —Discussion
3. Close-Ups on Paper Mill Guarding—E. E. Jones, Engineer, Surety Guard Company, Chicago. —Discussion
4. The Philosophy of Safety—Judson G. Rosebush, General Manager, Northern Paper Mills, Green Bay, Wis. —Discussion

Luncheon

Wednesday Noon, September 30, at 12:30 o'clock, Statler Hotel

Chairman S. F. Shattuck, Treasurer, Kimberly-Clark Company, Neenah, Wis.

1. Management Responsibility.
2. Award of Loving Cup offered by "The Paper Industry" for the best accident record of any paper mill in the membership of the National Safety Council during the month of August, 1925.

Third Session

Thursday Morning, October 1, at 10:00 o'clock, Statler Hotel

1. Round Table Discussion; Our Most Unusual, or Troublesome Accident.
2. The Safety Inspector and the Full Co-operation of Plant Organization—A. S. Wilson, Safety Engineer, American Writing Paper Company, Holyoke, Mass. —Discussion
3. The Combining of Health and Accident Service by Industry—Alexander R. White, Chief Sanitary Inspector, Province of Ontario, Toronto, Canada.

Fall Meeting of T. A. P. P. I. Postponed

The fall meeting of the Technical Association of the Pulp and Paper Industry, which was scheduled to be held at Kalamazoo, Mich., on Tuesday and Wednesday, October 6 and 7, has been postponed to October 15 and 16.

A meeting of the T. A. P. P. I. members will be held at the Tenth Exposition of Chemical Industries in the Grand Central Palace, New York, on September 30 at 2 P. M. George K. Spence, president of the association, will preside in the ab-

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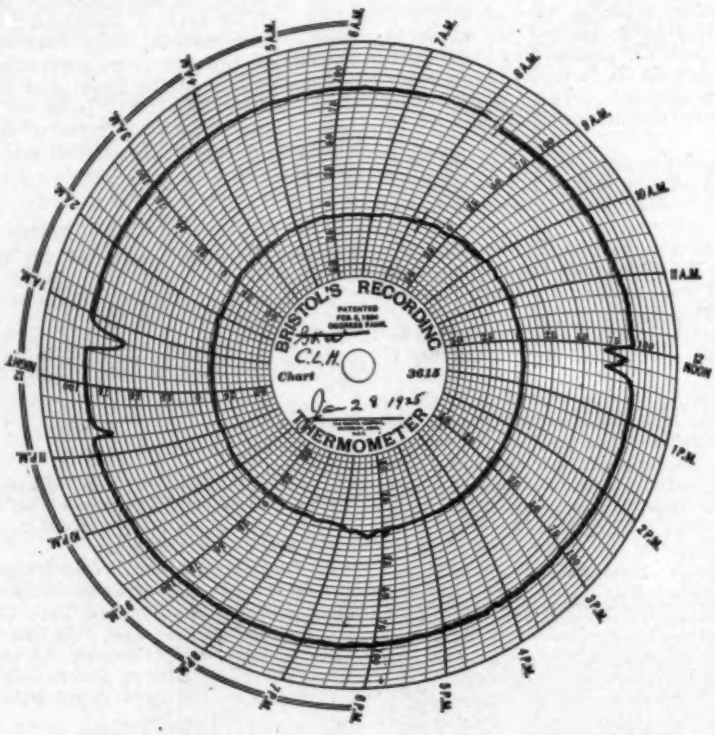
Cut down the Cost of Heating the Machine Room



Equalize the Load on the Boiler Summer and Winter

The above chart taken from a prominent news print mill shows the tremendous saving of steam caused by the Briner Economizer. The inside line shows the cold air entering the Briner Economizer. The outside line shows the temperature of the air leaving the Briner Economizer.

The air was heated by the Briner Economizer from between zero and 15° below zero, to 90°, WITHOUT THE USE OF ANY STEAM.

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NEW BIRKS BUILDING, MONTREAL

sence of Secretary W. G. MacNaughton, who sails for Sweden on September 12 to be gone a month or six weeks.

It is on account of the absence of Mr. MacNaughton that the fall meeting of T. A. P. P. I. has been postponed. He has accepted an invitation to inspect some of the pulp and paper plants in Sweden, which are equipped with Ruths accumulator. A small party headed by Alfred J. T. Taylor, of the Combustion Engineering Corporation, will leave New York for London on the steamship Majestic, Saturday, September 12.

T. A. P. P. I. Program at Chemical Exposition

The program of the Technical Association of the Pulp and Paper Industry, at the Tenth Chemical Industries Exposition, Grand Central Palace, New York City, September 28th to October 3rd, will take place on Wednesday, September 30th, at 2 P. M. The arrangement is as follows:

"The Development of the Save-All," G. W. Repetti, The Dorr Company.

"Acid Resisting Alloys Used in the Paper Industry," Victor Hybinette.

"Heat Insulation in the Pulp & Paper Industry," E. C. Rack, Johns-Manville, Inc.

"An Insulated Paper Mill Roof," C. J. Beckwith, Johns-Manville, Inc.

"Evaporating Black Liquor," R. W. MacGregor, Ernest Scott & Co.

"The Meaning of Hydrogen Ion Concentration and its Application to the Paper Industry," W. A. Taylor, LaMotte Chemical Products Co.

"New Developments in Recovery and Finishing of Paper Pulp," K. A. Pelikan, National Homogenizer Corp.

"Paper Dyes for Clear Back Water," John R. Robert, E. I. DuPont de Nemours & Co.

"Speed Reducers for Paper Mills," J. R. Shays, Jr., Foote Bros. Gear and Machine Co.

The program of speakers for the intensive one-week course in chemical engineering fundamentals for college students, to be held in conjunction with the Exposition, is gradually nearing completion. Some of the leading authorities in their respective fields in the chemical industry and associated groups, will lecture at the Students' Course at the Chemical Exposition.

The Course is open to all college students in chemistry or chemical engineering, or others in the industry who desire to go over a one-week's course in the fundamentals of chemical engineering. Lectures will be held each morning of the Exposition at the Grand Central Palace.

No charge is made to those who attend.

Salesmen Plan Winter Activities

With the summer ended, the various groups of the Salesmen's Association are now planning their winter program. At Chicago the members have not only their weekly meetings to prepare for, with a resumption of the round table sessions, but also the special luncheon on October 6 in connection with the National Paper Trade Convention at which the manufacturers and merchants get together.

In New York, the weekly round table sessions will be resumed Monday, Sept. 14, at the Belmont Hotel, and plans contemplate an occasional special program in addition to the weekly discussion of business matters.

The New England division has such a scattered membership that it has never been found practicable to hold regular round table conferences, but the members in that section are endeavoring to find some way of utilizing the association for the better development of salesmanship of paper.

The Miami Valley division has held its periodical round-table discussions combined during the summer with golfing at one of the fine country clubs in that valley.

The development of some new salesmen centers as subdivisions of the four main divisions has been considered, and there is a possibility of such sub-sections in the south and in the Kalamazoo district, though nothing definite has been done.

Northern New York News

September 1, 1925.

Get Rate Reduction

The Iroquois Pulp and Paper Company with plants at McKeever and Thomson, N. Y., for the manufacture of mechanical pulp, news and hanging papers, won a victory over its competitors at Glens Falls, Warrensburg and nearby towns in Northern New York when the Interstate Commerce Commission ordered the railroads to put into effect rates on wood pulp in carload lots from Canada to Thomson on a parity with rates to Warrensburg, and from the same points to Thomson, a rate not exceeding by three cents per 100 pounds the rates to Glens Falls. The Iroquois company manufactures hanging paper for the Standard Wall Paper Company.

The complaint alleged that the Greenwich & Johnsonville Railway, the Delaware & Hudson, the Canadian National and Canadian Pacific were charging rates on woodpulp from Quebec, Bromptonville, Donnacona, Grand Mere, Chicoutimi, Val Jalbert, Pont Rouge, Cap Madeline, Matapedia, Old Lake road, Rimouski and Riviere de Loup, P. Q., and Ottawa and Iroquois Falls, Ont., to its mills at Thomson which were unreasonable and unduly prejudicial to it and preferential to its competitors at Glens Falls, Fort Edward, Corinth and Warrensburg. The present rates from the Canadian points mentioned to Thomson average from two to seven cents higher per hundred pounds than from the same points to Warrensburg and from five to nine cents higher than to Glens Falls. The rate from Ottawa to Glens Falls is 19 cents per hundred pounds; to Warrensburg, 21½ cents and to Thomson 28 cents. From Pont Rouge the rate to Glens Falls is 27 cents, to Warrensburg, 29 cents and to Thomson 35 cents.

The Iroquois Pulp & Paper Company asked the Interstate Commerce Commission to group all rates from Canadian points of origin to Glens Falls, Corinth, Warrensburg, Mechanicsburg and Thomson on the ground that there is lively competition between the various mills, but slight differences on distances and admittedly no substantial difference in transportation conditions. It also asked that the railroads be required to award reparations on this basis for past shipments amounting to about 14,000 tons of woodpulp a year. The commission held that the rates were prejudicial to the complainants, and ordered the new rates to become effective Oct. 31.

Change of Venue Denied in Newton Falls Litigation

Supreme Court Justice Churchill of New York has rendered his decision denying a motion for a change of venue in the case of the McGraw-Hill Corporation and the United Publishers Corporation of New York against Frank L. Moore, Stuart D. Lansing, Virgil K. Kellogg, Loren Bushnell, Mrs. Anna I. George, Mrs. Carrie B. Lansing and Mrs. Jessie B. Kellogg. The defendants sought to have the place of trial changed from New York county to Jefferson county. The case grows out of the sale of the Newton Falls Paper Company, the plaintiffs claiming that the property was misrepresented. The defendants announce that an appeal will be made to the appellate division, and it is unlikely that the case will go to trial before a year.

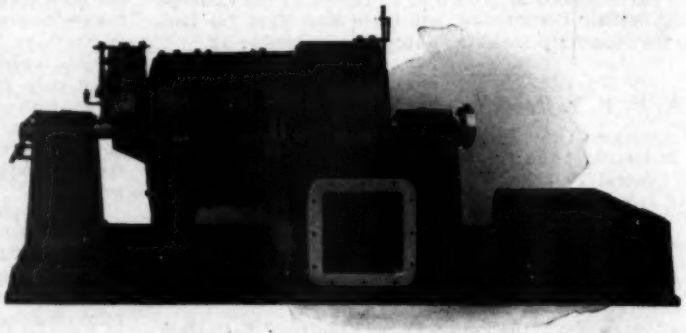
The plaintiffs declared that it would be impossible to secure an unbiased jury in Jefferson county on account of the prominence of the defendants. The defendants, on the other hand, said that most of their witnesses would be from Watertown and vicinity.

It became known that one of the star witnesses for the present owners will be Floyd L. Carlisle, president of the St. Regis Paper Company and former president of the Northern New York Trust Company of Watertown. According to the papers filed, while he was president of the trust company in 1918, Stuart D. Lansing furnished him with a statement of the Newton Falls Paper Company holdings of pulpwood and hardwood, which statements showed assets considerably less, it is alleged, than were included in a statement furnished to the prospective purchasers two years later. What price the purchasers paid is not definitely stated, but a report made by their expert, H. D. Eliason, spoke of $2,250,000 and strongly recommended that Frank L. Moore be retained as active head.

And You Can Do the Same

One paper manufacturer writes us: "We are pleased to say that we have two 360 HP boilers equipped with your pulverizers and have been operating these boilers for 15 months day and night. So far we have not been delayed one minute in our operation by the boilers."

(Name of company on application)



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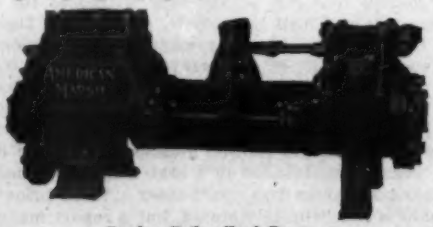
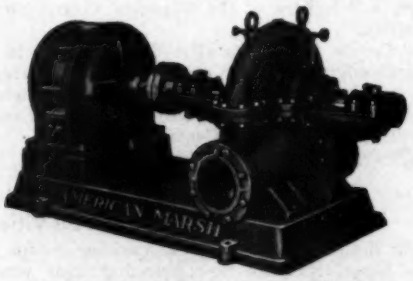
Give Long Service at Low Operating Cost

WHERE absolute reliability and efficiency are essential American-Marsh Pumps make good. The demand for better pumping equipment has increased the demand for American-Marsh Pumps. The present high standard of quality is the result of over thirty years of progressive development, and today represents all to be desired in service. Simple sturdy construction, economy in operation and long life are features that compel the attention of every user of pumping equipment.



Duplex Boiler Feed Pump



American-Marsh Double Suction Split Case

The Line Includes

- Boiler Feed Pumps
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- Wet and Dry Vacuum Pumps
- Air Compressors
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In his report, Mr. Eliason said that Mr. Moore had built up the Newton Falls company to a position where it was paying annual dividends of 36 per cent. Eliason reported to his employers that their paper problems would be settled for the next five years. A copy of the financial statement attached to the papers shows assets then estimated at $3,230,867.

The plaintiffs are suing to recover $2,000,000 for alleged fraud growing out of the sale of the Newton Falls Paper Company in the spring of 1920. In an affidavit, Mr. Lansing swears that when the stock was sold, the Newton Falls company owned 17,000 acres of forest land, some of it virgin, some cut over and some denuded. The company is also alleged to have owned a water power supply on the Oswegatchie river. Further property of the company consisted of the village of Newton Falls, hotel, school house, general store, houses for employees, a farm, sulphite plant and machinery for the manufacture of paper. Further assets, according to the affidavit consisted of cash in a Watertown bank, a stock of paper, sulphite pulp and ground-wood pulp, a large quantity of supplies, logs and pulpwood.

In opposition to the motion the plaintiffs set forth a lengthy affidavit. Mr. Eliason's report forms a part of this affidavit and in it he said: "Moore's strong point in the sale of the Newton Falls property is that the figure offered would be covered by the standing timber alone, with the mill almost thrown in."

The report further states that there was available 120,000 cords of pulpwood selling at $28 a cord in Watertown. It said that Mr. Moore said that this could be cut and transported for about $11, meaning a profit of $17 a cord or $2,000,000 on the pulpwood alone. The Eliason report also says that Mr. Moore represented that there were 300,000 feet of hardwood worth $10 a thousand or $30,000 more. Also, the report says, "another asset is 17,000 acres of land held at only $2 an acre; 120,500 cords of pulp-making wood on 5,500 acres of virgin forest, 17,000 cords at Aldrich and 8,500 cords at Cranberry Lake. These cords total 146,000, the report says, or ten years' supply of book-making paper. To make these available," continues the report, "the following expenditures are necessary: $100,000 for new machine room, $50,000 for bleaching plant, $25,000 for repairs on village and $25,000 for extras." On the basis of this Mr. Eliason recommended the purchase.

After the contract had been signed and Mr. Eliason had been made general manager of the property, it was alleged to have been discovered that the virgin tract there did not exceed 97,157.45 cords of pulpwood; that the Newton Falls company did not own in Saratoga county 3,861 cords of pulpwood, and at the time of the sale the pulpwood owned by the company did not exceed 130,517 cords, of which 3,999 cords were so scattered that it was not available. It is further alleged that the amount of hardwood was misrepresented. Further allegations were that Mr. Moore represented that the power furnished to the mill by the Oswegatchie river was 2,500 horse power and that 1,000 horse power was furnished by the lower plant below the mill. The amended affidavit says that the river delivered only 1,500 horse power and the lower plant 693. It was also alleged to have been stated that 40 tons of sulphite and special paper was made a day. The amended affidavit says that only 35 tons were produced each day. Mr. Eliason's affidavit also states that of the 8,500 cords of wood on Cranberry Lake, the Newton Falls company was discovered to still owe $98,876 on the purchase price.

In conclusion, the amended complaint alleges that the common stock was worth $2,400,000 but only $1,400,000 and the plaintiffs claim to have been damaged $2,000,000 by false representations.

Mr. Lansing said that the defense would probably be based upon an alleged difference in surveyors' measurements of standing timber. He stated that the surveyor for the Newton Falls company used the Scribner rule, while the one employed by the McGraw-Hill Corporation used the Doyle rule. The plaintiff claims the Scribner rule was used in both surveys.

Benjamin R. Shultice, aged 50 years, well known to the paper industry in Northern New York, died at his home in Watertown, Aug. 29. Mr. Shultice was a native of West Virginia and had lived in Watertown for the last 20 years. He was one of the leading sulphite specialists in Northern New York and maintained an office in Watertown for several years. During that time his services were employed by practically all the paper companies in this section. In later years he had been in the textile business.

New Officials at Knowlton Plant

Robert L. Pease and Alfred G. Wightman, both formerly connected with the Hawthorne Paper Company of Kalamazoo, Mich., have become officers of Knowlton Bros., Inc., in Watertown. Mr. Pease becomes vice president of the company and will have general charge of the manufacturing department of the plant. He was formerly vice president and secretary of the Hawthorne Paper Company. He comes as an added vice president, W. H. Howes, now vice president, remaining in his present capacity. Mr. Pease purchases a portion of the stock owned by H. E. Harmon. Mr. Harmon retains a part of his stock and remains connected with the company.

Mr. Wightman is superintendent of the mill, having the place of Homer E. Stafford who was general superintendent of the plant for several years. Mr. Stafford's resignation became effective September 1. His future plans are not known. Mr. Wightman was formerly superintendent of the Hawthorne plant.

A sharp fight will be waged in the International Brotherhood of Paper Makers at the annual election of officers which will be held during the first two weeks in October. Two are seeking the office of president. The ticket is headed by M. H. Parker who is seeking re-election. Parker defeated Carey in the memorial battle of a year ago which was carried to the courts, Carey charging fraud. The court decided in favor of Parker. The other seeking to get the job as chief of the brotherhood with its $5,000 a year salary is W. R. Smith of Kalamazoo, Mich.

Steamers loaded with pulpwood from Canada have experienced considerable trouble on account of low water. The latest steamer to ground was the Hall liner, Royan, from Quebec to Waddington with a load of pulpwood. The Royan grounded while entering Waddington harbor. After the cargo had been lightered the freighter was able to proceed.

Floyd L. Carlisle, president of the St. Regis Paper Company and the Power Corporation of New York, has been elected a director of the Mohawk-Hudson Power Corporation. The Mohawk-Hudson company is a holding company for a number of Northern and Central New York power companies. John N. Carlisle and H. E. Machold, directors of the St. Regis, are also elected directors of the Mohawk-Hudson company.

Bagley & Sewall Get Big Order

The Bagley & Sewall Company, of Watertown, has closed a contract for the construction of two large high-speed machines for the Port Alfred Pulp & Paper Company of Port Alfred, Ont. Work on the machines has already been started. Each of the machines will have a width of 234 inches, just eleven inches less than the biggest machine in the world. They will be heavily built to withstand the high speed to which they will be put and it is expected that they will produce 125 tons of paper every 24 hours.

Announcement is made that the Power Corporation of New York has entered into negotiations with the International Paper Company for its water powers in Northern New York and New England. The International has about 50,000 horse power available for sale, a part of it being on the Black river in Jefferson county, N. Y. It is understood that there will be no physical transfer of the properties, the Power Corporation merely purchasing the developed power. The New England negotiations are being conducted by the New England Hydro Electric Company. The Power Corporation, headed by Floyd L. Carlisle, and the New England company

Hytor construction as superior as Hytor performance

Size No. 8 Nash Hytor Vacuum Pump, for suction couch rolls and similar service. At 220 R. P. M., this pump will handle 2,000 cu. ft. of free air per minute and require only 66 H. P. For other sizes and capacities, write our Engineering Department.

HERE is the new type No. 8 Nash Hytor Vacuum Pump for suction couch rolls, flat boxes and similar service. Like all other Hytors for paper mill work it has several distinctive improvements in construction that are as superior as the service which Hytors always give.

The central ring support assures stability of the pump as a whole and also perfect alignment of the revolving impeller with freedom from cramping. It does away with the older inferior method of mounting the pump by legs attached to the side heads.

Note also the single pump connection—this eliminates the manifold.

NASH ENGINEERING COMPANY

So. Norwalk Connecticut

New England Representative
Mr. G. H. Gleason, Nottingham Bldg., Copley Sq., Boston, Mass.

Western Representative
Mr. T. H. Savery, Jr., Room 1534 Republic Bldg., Chicago, Ill.

Nash Hytor

VACUUM PUMPS AND COMPRESSORS

"Tannite" Deckle Straps for Fourdrinier Paper Machines

Represent the latest improvements. They are made to lie flat on the wire and run straight

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The Rubber Roll Makers NEWTON UPPER FALLS, MASS., U. S. A.

THE WATERBURY FELT CO.

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New York

FELTS and JACKETS

Top and Bottom Wet Felts for board machines, with all the qualities requisite to insure long life and continuous production.

They Satisfy

are negotiating for a merger of their power which would make the merged companies the greatest electrical producers in the eastern part of the United States. The Power Corporation already controls 125,000 horse power.

German Visitors Here

Wilhelm Niethammer and his brother, Dr. Gerhardt Niethammer, sons of Dr. Konrad Niethammer, a prominent German paper manufacturer, are making an inspection of paper mills in this country and Canada. Dr. Konrad Niethammer is the owner of the Kubler & Niethammer paper mill near Waldheim, Germany. They arrived in Watertown late last month and inspected the Bagley & Sewall mill. Before coming to Watertown they inspected the General Electric plant at Schenectady. After leaving Watertown they went to Canada, where they inspected a number of mills and at the end of two months they will sail for Japan.

"Labor conditions are better in Germany," they said. "The communists have lost much of their power. This is particularly true in Saxony, where our father's mill is located. Things are more peaceful in Germany now, although things are far from good. All goods are at least 20 per cent higher than they are here and our money hasn't the buying power of the American dollar.

"Newsprint business is good, but there is not business in the better grades of paper. We have seven machines in our mill and turn out about 160,000 kilograms a day (approximately 80 tons). Our widest machine is 2.80 meters (about 100 inches). One of our biggest customers is La Prensa, a newspaper at Buenos Aires."

John J. Warren, president of the Harmon Paper Company and the Warren Parchment Company, who was seriously injured by the explosion of a gasoline tank in his motor boat, has recovered sufficiently to leave the City hospital at Watertown. Mr. Warren was badly cut about the head and face by flying metal and it was at first thought that his injuries would be fatal. After remaining several weeks in the hospital, he recovered sufficiently to go to his summer home at Three Mile Bay where he is slowly recuperating.

Dr. James E. Campbell, president of the Dexter Sulphite Pulp & Paper Co., has been designated as a candidate for city councilman on the Watertown council. Opposed to Dr. Campbell is Harry C. Kinne, assistant sales manager of Bagley & Sewell Company of Watertown, manufacturers of papermaking machinery.

Fire did $150,000 damage in the stock and finishing room of the Lockport Paper Company recently. The fire is believed to have started from an explosion in a drum of oil. Two workmen were seriously burned before they could make their escape from the building.

Grover W. Nutting, aged 39 years, for 20 years employed in the office of the Dexter Sulphite Pulp & Paper Company, died at his home in Dexter, Aug. 25. He was regarded as one of the most valuable men of the office force.

The Algonquin Paper Company of Ogdensburg is constructing a cement tank at its mill in Ogdensburg for holding 20 tons of sulphite slush pulp, the daily reserve supply. The tank is 65 feet by 24 feet by 14 feet.

H. H. Haeberle in Government Service

H. H. Haeberle, Jr., at one time with the E. Lattimer Paper Co. in Philadelphia and more recently with Henry Lindenmeyr & Sons, of New York, has been selected as assistant chief of the Paper Division of the Department of Commerce to succeed O. M. Butler, who went to the Philippines as Trade Commissioner recently. John T. Matthews, Jr., assistant director of the Bureau of Foreign and Domestic Commerce, will continue as acting chief of the Paper Division. Mr. Haeberle has been identified with the paper trade for some years and has traveled quite extensively in South America.

New York City News

September 1, 1925.

Fire Destroys Rushmore Plant

Fire on August 23 destroyed the plant of the Rushmore Paper Co., at Gardner avenue and Townsend street, in the Greenpoint section of Brooklyn, N. Y. Because of the proximity of other manufacturing establishments, four alarms were sent in, which brought apparatus from many fire houses in Brooklyn and some from Manhattan, as well as two fire boats, which were unable to reach the burning structure because of low tide in Newtown Creek, on which the plant is situated. The flames were discovered coming from a corner of the building in the early afternoon by a watchman. Before the arrival of firemen, two touring cars and five automobile trucks were run out of the building, which constituted about the only things saved.

The Rushmore Paper Co. manufactures toilet paper and paper towels. The plant was equipped with two paper machines, four beaters and two refiners, and had the distinction of being one of only three papermaking plants situated in the environs of Greater New York, the other two being the Tidewater Paper Mills in Brooklyn and the Ravenswood Paper Mill Co. in Long Island City.

Upson Declares Stock Dividend

The Upson Company, manufacturer of fibre board and wallboard, of Lockport, N. Y., declared a 25 per cent stock dividend in August, payable on the common stock August 20, in addition to the regular quarterly dividend of 1¾ per cent payable September 15. This makes total common stock dividends of 235 per cent paid since 1915, while cash dividends have averaged better than 7 per cent.

Recently the company increased its authorized capital from $2,000,000 to $5,750,000, of which $2,000,000 is 7 per cent preferred and $3,750,000 A and B common. Only a portion of this stock will be issued, the balance being held against future expansion plans of the company. Under the new capitalization all the 8 per cent preferred has been retired. Although there was $650,000 of this issue outstanding, only $400,000 of the new 7 per cent preferred was issued to replace it, the balance being paid off in cash. Stockholders subscribed the new 7 per cent twice over.

Charles W. Williams

Charles W. Williams, head of the paper jobbing and importing firm of Charles W. Williams & Co., of 303 Lafayette street, New York, died on August 9, at Colorado Springs, Colo., after two years of failing health, following a stroke of apoplexy, which caused his retirement from active business. Mr. Williams was visiting his daughter in the West at the time of his death. He was a native of Springfield, Mass., and was 62 years old. He founded his paper business in 1895, beginning in a small way at 29 Beekman street, and gradually built it up until it was one of the largest of its kind in the country. Mr. Williams is survived by his widow, a daughter, and two sons, Alfred D. and Charles W. Williams, Jr.

Joseph Bass Reycraft

Joseph Bass Reycraft, for many years connected with the International Paper Co., in New York, died August 4 in the Jersey City Hospital. He was 55 years old and had lived for the last 11 years at 229 Bayview avenue, Jersey City. His death was due to pneumonia, which developed following an operation he underwent for neurasthenia and general nervous debility. He is survived by his widow, five sons and a daughter.

The Aldine Paper Mills have enlarged their offices to triple the space they formerly occupied at 1270 Broadway, New York. The company has added three new lines of mill brand bond papers. A warehouse is maintained at 541 West Thirty-fourth street.

The International Paper Co., with main offices in this city, has expanded its group insurance program with the Metropolitan Life to include more than 480 employes of the Ticon-

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All Colors for Your Particular Needs

Specializing in the manufacture of paints in all colors to meet the particular requirements of paper and pulp mills.

A special service that will solve your painting problems.

Offices and warehouse stocks in all principal cities

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HAMILTON, OHIO

Leading Builders of the best **Fourdrinier** and **Cylinder** Paper Making Machines and other accessory equipments for Paper and Pulp Mills.

A Great Success

Our patent vertical dryers installed on a Fourdrinier machine making cover papers.

No felts used on them.

Steam pressure reduced from 15 pounds to less than 5 pounds.

No cockling of the paper.

Sheet threaded by Sheehan patent carrier system.

Increased production and better paper.

deroga Pulp and Paper Co., of Ticonderoga, N. Y., for a coverage of approximately $750,000 life insurance and a similar amount of death and dismemberment insurance. This raises the total covering of I. P. workers to more than $9,000,000 for each class of insurance.

The De Luxe Paper Co., Inc., of 121 Spring street, New York, filed schedules in bankruptcy recently giving liabilities of $39,313, and assets of $37,900, main item of which is accounts amounting to $28,850. Among the principal creditors are Coy, Disbrow & Company, Consolidated Paper Bag Company, American Manufacturing Company, S. C. S. Box Company, and the Standard Box Company.

John R. Gilmore, widely known in paper selling circles, has taken charge of the New York office at 320 Broadway, of the District of Columbia Paper Manufacturing Co., of Washington, D. C. Mr. Gilmore was for five years with the American Writing Paper Co., and for two years was in charge of the New York office of the A. M. Collins Manufacturing Company. He also represented the latter firm on the Pacific Coast.

The Pulp and Paper Trading Co., of 21 East Fortieth street, New York, has been appointed sole selling agent for Canadian Kraft, Ltd., distributors of Wayagamack newsprint, with mills located at Three Rivers, Canada, having a daily capacity of 200 tons of print paper. James T. Mix, well known in newsprint circles, is now associated with the Pulp and Paper Trading Co. and has charge of its newsprint department.

D. L. Sherk (Ph. D., University of Wisconsin, 1920) and K. Cheng Hu (B. S., University of Illinois, 1925) have recently become associated with the Research Department of the Oxford Paper Company in Brooklyn, N. Y., as research chemist and assistant chemist, respectively.

The New York offices of the Stone Bros. Company, large dealers in and importers of papermaking rags with main offices and warehouses in Cleveland, O., have been removed from 153 Spring street to Suite 1602 in the Canadian Pacific Building, 342 Madison avenue.

William O'Meara, vice president and treasurer of the Maurice O'Meara Co., paper merchants of 450 Pearl street, New York, sailed on the steamer Caronia August 8 for a visit to Europe.

Paper Mill to Electrify

W. C. Hamilton & Sons, Miquon, Pa., makers of a fine grade of paper for ledgers, wedding announcements, personal stationery and other uses, have decided to electrify their plant. Four steam-driven machines are now in use at Miquon, driven through a complicated system of line shafting. When one of them broke down recently, it was decided to electrify the entire plant. Accordingly there will be installed, probably by this fall, a 1,500-kilowatt, non-condensing, turbine-driven generator unit which will supply power to four motor-driven mills. The non-condensing type of turbine was selected, inasmuch as the mill utilized a large quantity of process steam.

All the electrical equipment will be of General Electric manufacture. Power will be distributed throughout the mill at 480 volts. The paper machines will be operated by the single-motor type of electric drive, using four 80-horsepower, adjustable speed, direct current motors. The direct current will be obtained from four 75-kilowatt motor generators, one located at each machine.

The Jordans had previously been belt driven from the same system of line shafts which drove the paper machines. When the new installation is completed, each Jordan will be driven by an individual 150-horsepower, direct connected, synchronous motor.

A number of 10-horsepower induction motors will also be installed for general duty about the mill.

New England News

September 1, 1925

The General Situation

Paper Board Mills of New England show the most pronounced improvement of any division of the industry during the present month. Operations in the Connecticut valley are slow. The newsprint mills of Maine are operating at capacity and the wrapping paper mills, while capable of accepting much more business, are still meeting southern competition in the home, namely the New England market, by their very satisfactory No. 2 kraft.

No important news has been received from Holyoke regarding further developments in the affairs of the American Writing Paper Co. The sale of the Ohio properties so far as is known is still in the process of negotiation.

Meantime the building of additional warehouses for paper storage at leading paper mills, goes on apace. Strathmore, Bird & Son, Tileston & Hollingsworth have been conspicuous in this way. The last named "Paper Makers for Over 100 Years" completed their million pound paper storage warehouse in the Hyde Park district of Boston during the past month. A dance attended by employees and officials ushered the new building into service. Here paper will be stored, on skids from which they can be quickly transferred by hand, truck to truck. This not only meets the great increase in the small order business but also permits the mill to set aside full runs of paper to meet the future requirements of their publishing trade.

To meet the small rush order, however, is one of the chief purposes of this era of warehouse building.

Incidentally, Tileson & Hollingsworth Co. are at this writing completing the installation of a new modern paper making unit, a product of Rice, Barton & Fales, which will give them 50 per cent greater capacity than the machine it replaces.

Bird & Son, Inc., have let contracts for constructing a new warehouse in the East Walpole district to J. Gascoigne & Co., Inc., 6 Beacon street, Boston. The warehouse will be in the nature of an addition to the existing storage.

The paper mills of Maine have at last taken the bull by the horns in the form of the Maine Central Railroad. The latter has procrastinated in the matter of refunding for reparations due on excess pulpwood charges although ordered to make such payments by the Public Utilities Commission of Maine. Now the International Paper Co., the Eastern Manufacturing Co. and the S. D. Warren Co. have brought suits against the railroad in State Courts seeking to recover excess charges collected by the railroad during 1924 up to and including the date when the P. U. C. ordered reductions in the rates. The P. U. C. at the same time ordered reparations within six months and it is on the basis of that order made last fall, that the present claims are made.

Bath Iron Works, Ltd., a famous figure in the manufacture of paper mill machinery, including the famous Warren magazine grinder, will be sold at public auction on September 24 by order of Supreme Court Justice John A. Morrill, of Maine. The sale will be held at the court house in Bath at an upset price of $90,000. Unquestionably more than this will be bid as there are around a million and a half of first mortgage bonds outstanding in the hands of some 400 holders.

Plant of the Consolidated Paper Bag Co., in the Boynton Yard of the Boston & Maine R. R., in Somerville, Mass., was partly destroyed by a fire that caught when a neighboring coal plant was burned recently. Over $100,000 worth of paper and paper bags was in the building at the time with damage estimated at $35,000. Owners are Israel and Nathan Ginsburg.

Mr. Max Maier-Hermann of the well known German paper stock firm of Marx Maier in Mannheim, will arrive in New York from Southampton on or about September 9. He will make his headquarters while in the United States at the offices of the George M. Graves Co., 77 Summer St., Boston,

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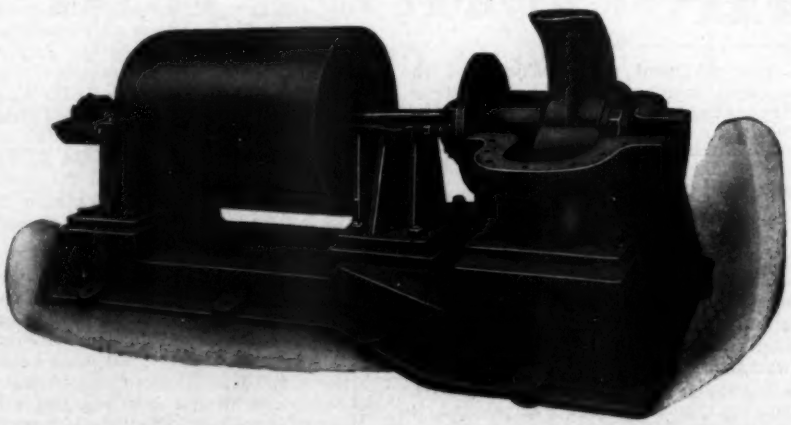

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well known paper stock packers, who are American representatives of Marx Maier. Mr Maier while in America will visit the leading paper mills using rags, with the intention of informing himself more fully of American requirements in the sorting and packing of paper stock. Mr. Maier is also president of the N. V. Export-En Commissiehandel "Meppel" of Rotterdam, large exporters of cotton rags.

Another representative of the N. V. Export En Commissiehandel "Meppel," who is studying American paper mill requirements and may eventually remain here is Mr. M. Goodswaard of Rotterdam who is also making his headquarters with George M. Graves Co., in Boston.

A freight shed of the Boston & Maine R. R. at Haverhill, Mass., in which was stored some 550 tons of waste paper, the property of the Robert Gair & Co.'s Haverhill mill which had leased the storage from the B. & M., was largely destroyed by fire early this month.

Fire did some damage to the paper stock packing plant of William A. DeVito Co. of Charlestown, Mass.

Newsprint paper will be shipped to Boston dailies by the two steamers of the Newfoundland Power & Paper Co., which has started production. The two vessels, the Beaverbrook and the Cornerbrook, are to carry newsprint to Boston and New York according to present information.

Mr. and Mrs. William F. Whiting of the well known Holyoke paper making family were recent guests of President and Mrs. Coolidge during the short stay of the President at Northampton recently. It will be recalled that Mr. Whiting was regarded as the original booster for Coolidge at the Chicago convention in 1920, and George A. Galliver, then president of the American Writing Paper Co., was largely instrumental in securing second place on the 1920 ticket for the present Head of the Nation.

Receiver J. H. Cashman has requested the Federal Court at Boston to discharge him as receiver from the Pepperell Card & Paper Co. This is expected to be a mere matter of form as all debts have now been paid and the Company is operating under ownership of Frank Carpenter, of the Amoskeag Paper Mill.

Fires have destroyed quite a total of paper in New England this month. A storage of newsprint of the Boston Post on Lewis Wharf, Boston, was destroyed by fire during the past month.

Officials of the Hollingsworth & Vose Co., were entertained at the home of Mr. Louis Vose at East Walpole, Mass., on Monday, August 31, at an annual corn roast. Merry-making was varied with serious discussion of current problems.

A conference of New England traffic managers was held at the Boston Chamber of Commerce recently to decide on a uniform policy to be presented to Commissioner Eastman and his examiner of the I. C. C. when hearings on the Class Rate Investigation commence at Boston on September 14. Among the paper men present were S. E. Wardwell, of the St. Croix Paper Co., A. A. Raphael, assistant traffic manager of the New England Paper & Pulp Traffic Association, P. J. Dowd representing the Holyoke fine paper mills.

C. L. Whittemore, traffic manager of the N. E. Paper & Pulp Traffic Association, attended the recent meeting at Portland of the Maine Traffic Association, at which the question of opposing the supplementary proposals of the Maine Central R. R. in the Class Rate Investigation were discussed.

Holyoke paper men are very prominent in the plans for the 1925-26 season of the Western New England Advertising and Sales Promotion Managers. A get-together meeting at the camp of Walter F. Dearden, of the Strathmore Paper Co., will be the first event on Wednesday evening, September 9. Mr. Dearden is sales promotion manager at Strathmore. C. F. Norton advertising manager of the Strathmore Paper Co., is chairman of the program committee, and E. E. Cornwall of the National Blank Book Co., is on the membership committee. The paper members of the price committee are C. H. Barr, sales promotion manager of the Crocker McElwain Co., and A. G. K. Van Buren of the Old Colony Envelope Co., of Westfield. All the sales promotion men in the paper mills of western Massachusetts are interested; among those actively so besides the ones mentioned, being: Fred Webster of the American Writing Paper Co.; D. C. Haggerty of the National Blank Book Co.; C. H. Cooley of the Taylor Logan Co.; Gordon Blanchard of the Crocker McElwain Co.

S. L. Willson, president and receiver of the American Writing Paper Co., has just returned from a visit to Washington, D. C., where he engaged in an important conference with Federal officials regarding the Federal taxes on the American Writing Paper Co. Negotiations for a settlement agreeable to both the Government and the Company have been in progress for some time. A decision is expected in the near future.

The Oxford Paper Co. shipped seven carloads of the finest grade of magazine paper through Portland via steamer and the Panama Canal to the Pacific Coast early this month. New England mills by quality and reasonable price, with the aid of fair water rates are meeting western competition on the Coast.

Attention of Executives Called to Human Raw Material

Addressing the Kiwanis Club of Biddeford and Saco, Maine, T. L. Crossley of Toronto, urged upon all executives the necessity of closer study of men, and better provision for advancement in the cases of men wishing to make a definite study of an industry as a lifework.

The development of educational facilities in the pulp and paper industry was discussed and some of its results cited. Attention was called to the small number of men in any industry who are prepared to make sacrifice of time and money to qualify. Such men are worthy of every assistance.

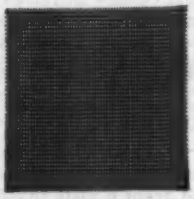
Sale of The Whitmore Mfg. Co., of Holyoke, to the Rosmarg Coated Paper Co. has been postponed until September 8 when a hearing on the matter will be held at the Suffolk County Court, Equity Division. The offer of the Rosmarg Coated Paper Co., amounts to $150,000 plus taxes and amounts to be agreed upon for chemicals. This includes $100,000 first mortgage.

There is now on our carpet of immediate interest the erection of two very fine, modern paper machines, 168" wide, 166" wire, for Fraser Paper, Ltd., at Madawaska, Maine, on the extreme northern border of the state and opposite Edmundston, Canada, on the St. John River.

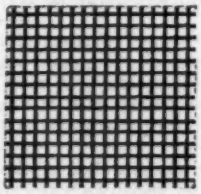
Taylor Stoker Co., Ltd., of Montreal, announce the sale of three 9-retort, long Taylor underfeed stokers for installation under three 819 H. P. boilers at the Port Alfred Pulp and Paper Co., Ltd., Port Alfred, Que., and three 8-retort 21-tuyere, type "H" Taylor stokers for installation at the Backus-Brooks Co. paper mill, Kenora, Ont., under three 800 H. P. Babcock & Wilcox boilers, capable of operating them at 300 per cent of normal boiler rating. These stokers are of the same type built in this country by the American Engineering Co., of Philadelphia.

Alarmed at reports that the dreaded "bud worm" was ravaging the forests of Cape Breton, the Nova Scotia Government has arranged for an investigation to be made by Otto Schierbeck, forestry expert for the Barnjum interests in Nova Scotia. The places affected are said to be in Inverness and Victoria Counties. Government officials stated that, bearing in mind the disastrous results of ravages of the bud worm in Ontario and New Brunswick, every possible precaution would be taken to prevent it from spreading in Nova Scotia.

FOURDRINIER WIRES



In Brass, Bronze and phosphor bronze, widths up to, and including 250 inches.



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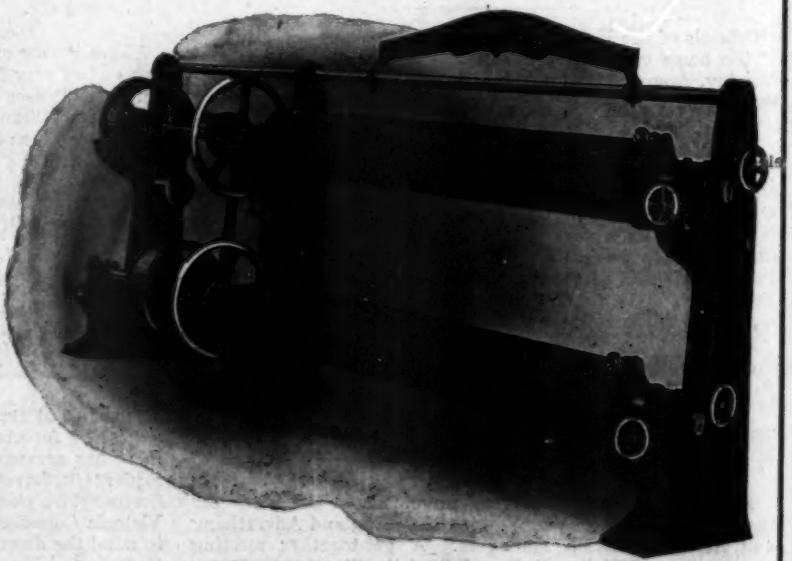

TWO DRUM REEL—Heavy Pattern

Canadian Section

Montreal, September 1st, 1925.

Probable Increase in Pulpwood Dues

According to word sent out from Ottawa, the action of the Ontario Government in increasing pulpwood royalties has had a marked effect on other Governments administering natural resources. In fact, it would appear certain that the Ontario Government's move is but the first in a series which will result finally in the value of Canadian pulpwood reaching a new high level.

For many years the basis value of pulpwood—that is, the fixed value, which was exceeded only at auction sales where contending paper manufacturers bid the price higher—has been 80 cents per cord. However, at recent sales the bidding has shown that manufacturers were able to bid higher and still manufacture paper at a profit. The contract recently signed between the Federal Government and the Spanish River interests for a berth in Manitoba provides for an average price of $1.65 per cord, which now appears to be about the natural level of value for Canadian pulpwood.

The Department of Interior at Ottawa recently prepared statistics which showed that the average price being paid for pulpwood in Ontario and Quebec is about 92 cents per cord, which, in view of the prices bid recently, is much below present-day values.

Reduced Freights on Pulp Requested

A statement was recently filed with the Board of Railway Commissioners by the Canadian Pulp and Paper Association, who request a readjustment downwards of freight rates on pulpwood and wood pulp on the ground that the present rates on these commodities are now excessive.

Relief from alleged excessive rates on groundwood pulp to New England and Northern New York State regions is also asked by the Northern Ontario Light and Power Company.

Canada Again Produces More News Print Than U. S.

Production of newsprint in July was lower than in the previous month, there being a smaller output both in Canada and in the United States. For the third time this year, however, Canadian production exceeded that of the U. S. mills, although the difference was only about 500 tons. During the first six months of the current year Canadian mills turned out 746,444 tons of newsprint, which is considerably higher than the production in the corresponding period of 1924, and exceeds the production in any previous half year.

Several paper and paper-box manufacturers have been elected on committees of the Canadian Manufacturers' Association: Angus McLean, of the Bathurst Company, Bathurst, N. B., has been elected to the transportation committee; Art Harries, of the Standard Paper Box Co., Montreal, is on the insurance committee; Alex. Wilson, of the Wilson Box Company, Limited, St. John, N. B., is on the membership committee; R. B. Sharpe, Pacific Box Co., Limited, Vancouver, B. C., will serve on the industrial relations committee; C. J. Williams, Alberta Box Manufacturing Co., Limited, Calgary, Alta., commercial intelligence committee, and A. M. Sharp, British Columbia Box Co., Limited, Vancouver, is on the publicity committee.

The outlook at present is that the litigation involving the Newfoundland Banking and Trust Company of London and the Reid Newfoundland Company of St. John's, will continue indefinitely. The suit was instituted for commissions alleged to be due to the Newfoundland Banking and Trust Company in connection with the development of the big pulp and paper mills of the Newfoundland Power and Paper Company, at Corner Brook. The claim is for approximately $1,000,000. In the hearing there were submitted 1,100 pages of evidence; the pleadings occupied 107 pages, and there were also 700 letters placed before the court. Indications are that, regardless of what decision is rendered, there will be an appeal to the Privy Council from the judgment of the Supreme Court of Newfoundland.

Demonstration of Snow Motor

Through the courtesy of the Canadian Pacific Railway, who made the arrangements, representatives of local transportation and pulp and paper interests viewed a private screening of a film taken last winter, showing the "Snow Motor" in action. The screening was at the headquarters of the Associated Screen News, at Montreal. Demonstrating ability to go over snow to any depth, to penetrate regions of snow where there are no roads, in which men, horses, or other machines or vehicles would hopelessly flounder, the film showed snow motors on which were mounted for motive power, Fordson tractors and a standard Chevrolet automobile, operating in several districts of northern Michigan, usually snowbound, with roads blocked many months in the year.

The snow-motor, stripped of its motive power, consists of two torpedo-shaped, hollow drums, or cylinders, to which are welded spiral flanges or runners. The drums, which are chain driven, revolve in opposite directions, the spiral on one being right-handed, and on the other left-handed. The drums float the tractor or automabile, and the spirals effect locomotion. The tractor can attain a speed of 12 miles an hour, and the automobile snow motor to be produced later will be able to go 28 miles an hour.

Eight hundred beneficiaries, including practically every householder in the paper mill towns of Great Falls, Millertown and Badgerbrook, Newfoundland, all founded by the late Lord Northcliffe, have received a share of the $250,000 fund which the publisher willed to his Canadian workmen. Resident managers of the Northcliffe paper mills each received $5,000, and the workmen got the equivalent of three months' wages with interest from the date of the publisher's death, three years ago.

Corner Brook Mill Officially Opened

The official opening of the Corner Brook newsprint mill of the Newfoundland Power and Paper Company took place on the 24th and 25th of last month; but paper had been coming off the machines for some weeks previous. R. S. Kellogg, Secretary of the News Print Service Bureau, who recently made an extensive tour of newsprint mills in Eastern Canada and the United States, was at Corner Brook when the mill actually started up, and saw the first reel of newsprint taken from No. 1 machine.

The opening was marked by a series of brilliant functions, which commenced when the governor of Newfoundland, Sir William Allardyce, pressed an electric button that set the machinery in motion in the $20,000,000 pulp and paper mills, and which were brought to a close in the evening with a ball for which five hundred invitations had been issued. At the banquet, places were laid for eight hundred guests. Among the speakers were Sir Glyn West, representing the Armstrong Whitworth Co., Captain D. E. King, heading the British Parliamentary party, Hon. W. F. Monroe, prime minister of Newfoundland, Senator Casgrain, of Montreal, and others.

The program including a visit of the mills, of which John Stadler, for years manager of the Belgo-Canadian mills at Shawinigan Falls, is manager, as well as a visit to the power site at Deer Lake, thirty miles from the mills. The party of English Parliamentarians also visited the Harmsworth paper mills at Grand Falls, Newfoundland, as well as the Wabana Iron Ore Mines on Bell Island.

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QUEBEC

Anglo-Canadian Pulp and Paper to Start Building at Limoilou

Frank W. Clarke, president of the Canadian Pulp and Paper Association, returned on the 1st of last month on the Empress of Scotland from a business trip to London, which had to do with the new Anglo-Canadian Pulp and Paper Company, in which he is interested together with Lord Rothermere and his English associates.

Mr. Clarke stated that plans for the projected mill are now being prepared by George F. Hardy, of New York, and that the company hoped to be producing paper by the fall of 1927. When asked where the mill was to be located, Mr. Clarke said that the site would be at Limoilou, and that the company expected to start the preliminary work on the site this month. Mr. Clarke added that the company would spend about $15,000,000 in connection with the new mills and that by the early spring of next year they would have several hundred men working on construction.

Brompton Acquires More Timber Limits

A deal of considerable importance has recently been concluded by the McCrea-Wilson Lumber Co., Ltd., a subsidiary of Brompton Pulp and Paper Co., of East Angus, Que. The transaction involves an amount of approximately $100,000 and is in connection with the acquisition of valuable limits held by the English Lake Lumber Co., consisting of a hundred and ten square miles of limits on the headwaters of the northwest branch of the St. John River, above Lake Frontier.

The acquisition will prove valuable from the standpoint of the driving and operating on the rivers. It is estimated that the saving in the sorting of the logs of the two companies alone will reach a figure well up in the thousands. The McCrea-Wilson Lumber Co. will now have absolute control of this section. The English Lake Lumber Co. further transferred all its river improvements, driving equipment, dams, etc., as well as about 6,000,000 feet of fine spruce logs driven into Lake Frontier.

It was also reported that the McCrea-Wilson Lumber Co. had purchased a large area of timberlands in Aroostook county, Maine; but this was promptly given official denial.

The new mill of Price Bros. & Co., located at Riverbend, a town incorporated during the last session of the Quebec Legislature, and which is located a short distance from the Grande Décharge, is expected to be open for operations late this fall or early next spring. Work is being rushed, and construction is nearing completion. All the machinery is now on the spot, and its installation is already well under way.

Quebec Pulp and Paper Company Incorporated

The largest incorporation in the Province of Quebec for many years was announced early last month in the capitalization of the Quebec Pulp and Paper Company, with headquarters in Quebec and total capital stock of $22,000,000.

The incorporation of the company is for the purpose of absorbing seven pulp and paper companies, among them the Chicoutimi Pulp Company and the Saguenay Pulp and Power Co. Granting of these letters patent marks a further step towards the completion of the reorganization plans recently announced. It is understood that formation of a new board of directors is in progress and the names will be announced in the near future.

H. S. Taylor to Design News Print Mill for Port Alfred Company

It is reported that construction of the newsprint mill of the Port Alfred Pulp and Paper Corporation, of which George McKee was recently elected president, is to be proceeded with at once. The mill, which is to have a daily capacity of 200 tons, will be built alongside the sulphite mill at Port Alfred, Que., which has an output of 160 tons a day and which will supply the required sulphite for the newsprint.

The new mill will cost, it is estimated, in the neighborhood of $3,500,000 and the general contract has been awarded to The Foundation Company, while H. S. Taylor & Co., consulting paper mill engineers, are carrying out the design. Power will be supplied by the Duke-Price Company and requirements are estimated to be about 15,000 horse power. Two 234-inch newsprint machines, each having a capacity of 125 tons a day, have been ordered of the Bagley & Sewall Co., Watertown, N. Y.

As regards the groundwood mill which is to be erected on the recently-acquired Peribonka timber limits, it has been intimated that work will be started only when the inventory of these limits has been completed, which will take some time. It is understood that the contract for that work has already been awarded and that forest engineers will start without delay.

Fatal Accident at Eddy's

John Essex, 40, of Ottawa, an employe of the E. B. Eddy Co., at the Chaudière Falls, died in the Hull Hospital as a result of injuries received at the hydroelectric power plant of the Eddy Company, when a transformer blew out and he was severely shocked and burned. When the accident happened, Mr. Essex was almost touching the big transformer, and he received the full force of the blast, his clothes being burned from him, before the fire was put out by fellow workers.

He served with the Canadian forces during the Great War, enlisting in Toronto in 1914 with a battalion there and crossing with the first Canadian contingent. He was wounded and captured by the Germans during the first year of the war and spent four years as a prisoner of war in German prison camps.

Wayagamack News Print Mill Progressing Fast

The steel work and masonry of the new buildings of Wayagamack News Limited's newsprint mill at Three-Rivers are completed, and installation of the machinery is now under way. It is hoped to have the new machines in operation by November, and at the end of the year they should be adding considerably to the production of newprint of the Dominion.

The addition of newsprint to the list of products turned out by Wayagamack should have a beneficial effect on the 1926 earnings, despite the weakness in the newsprint market, for the additional production will serve to reduce the overhead charges on the total output of kraft and sulphate pulp. The company is already well equipped to take out the pulpwood for the newsprint mill. It has its executive and sales department, its power supply, its wood pile and the wood-room equipment necessary to take care of the increase in production.

Victor Bailliargé Temporary Director of School of Paper Making

Victor Bailliargé, forestry engineer, has been appointed temporary director of the School of Pulp and Paper Making in Three-Rivers, succeeding P. E. Piché who resigned at the end of July. The appointment is temporary in view of the absence of Hon. Honoré Mercier, Minister of Lands and Forests of the Quebec Government, under whose jurisdiction the School is placed.

The new head was among the first four qualified students of the Laval Forestry School, Quebec, who was given a scholarship to perfect himself in forestry science in France and Belgium. He has been connected with the Lands and Forests Department since his return and has been conducting, in co-operation with the Federal Entomological Service, the fight against the gypsy moths in the southwestern counties of the Province of Quebec.

A new board of directors has been appointed for the school, according to a recent order in-council, consisting of William Air, president of the Wabasso Cotton Co.; Alfred Laurin, merchant, and P. Bigue, attorney. They succeed L. P. Mercier, Vivian Burrill and Norman Labelle.

The new board will hold office for three years

From the start of the season up to August 1, there have been 247 forest fires in the Province of Quebec, according to official statistics recently published by the fire protection service; but the great majority of these fires were of minor importance and the small amount of damage caused is easily

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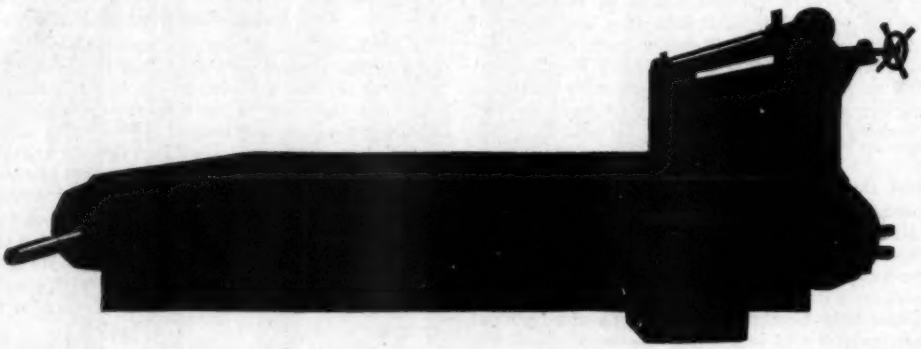

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explained by the fact that but 868 acres of merchantable timber were destroyed.

Bright Outlook for Dominion Engineering

Prospects are exceptionally good for Dominion Engineering Company, a subsidiary of Dominion Bridge Company, Montreal, which own 51 per cent of the common stock, and of which several of the larger paper companies are important shareholders.

It has been officially announced that the parent company has secured a substantial order from the Aluminium Company for their development at Chute à Caron, which order will run in the neighborhood of 3,500 tons of structural steel. Prospects are therefore exceedingly bright that both the parent company and its subsidiary will secure further extensive orders from this same development, including that for the turbines for the 600,000-horse power hydroelectric plant. This alone would mean something like $5,000,000 for Dominion Engineering.

In addition, it is reported that the subsidiary company has secured the entire machinery contracts for the new International Paper mill to be constructed at Chelsea, near Ottawa; and it is estimated that this order will amount to over $2,000,000. Another development from which both Dominion Bridge and Dominion Engineering might reasonably expect business is the new Rothermere paper development, Anglo-Canadian Pulp and Paper, which will shortly start building a newsprint mill at Limoilou.

Construction of the four paper machines for International Paper's Three-Rivers mill is nearly finished.

Forest Products Laboratories Installing Hazard Machine

Under construction at the Forest Products Laboratories of Canada, at Montreal, is the first Hazard machine to be made in Canada. The gigantic wheel, sixteen feet in diameter, and weighing about ten tons, which comprises the main part of the machine, can be seen towering above the fence in the lot next to the Laboratories; but when completed it will be lodged in a house built specially to house it. The machine will be used to test the strength of all kinds of shipping containers, with a view to investigating their performance under service conditions and improving them still further.

The wheel, which consists of an outer rim of iron, a floor of maple, then steel plates on the inside, gets its name of Hazard machine from the projections or "hazards" on the inner surface of the drum. It is slowly driven by a 10-horsepower electric motor. The loaded container is placed in the drum, and as it is set in motion is tossed about inside, is taken up and falls on the hazards. A careful record is kept of how it stands this treatment and from the information obtained the strength will be estimated.

During the year 1924, 203,263 acres of timber were destroyed by fire in the Province of Quebec, merchantable timber, with 67,708 acres, easily heading the list, according to the first annual report of the Forest Protection Service recently issued by Henri Kieffer, chief of this branch of the Provincial Government services. In all there were 636 fires during the course of the year, of which 186 were slash fires, 56 caused by railroads, 65 by lightning, 15 unextinguished fires, 63 caused by hunters and fishermen, 96 by travellers and smokers, 45 by forestry workers, three by men working on the province's roads, and 118 set down as being due to unknown causes. A section of the report deals with aviation, and states that planes and pilots rendered signal service to the province by bringing in information relative to the location and seriousness of fires, and also by making numerous reconnaissances.

Price Brothers Benefit from Association with Duke Interests

The potential value of Price Brothers' quarter-interest in the Quebec Development Company is now being evidenced by the substantial earning of the latter accruing from delivery of power to Price Bros. under its contract for consumption of 200,000 horse power. Duke-Price earnings will be further increased by the sale of large amounts of power to the Aluminum Company for delivery over the next three years, during which time the 600,000 horse power development at Chute à Caron will be carried out.

Price Brothers, it is understood, will receive as its share of the purchase price of the Chute à Caron power site approximately $4,090,000 par value of 6 per cent, cumulative preferred stock of the recapitalized company of a par value of $100, and also approximately 36,800 shares of common stock, of a par value of $5 per share, of the recapitalized company.

Good Progress on International's Three-Rivers Mill

Work on the extensions to the newsprint mill of the International Paper Company, at Three-Rivers, is proceeding satisfactorily. Considerable masonry work remains to be finished. Work on the extensions was started on December 1st, 1924, with a view to installing four additional paper machines, making eight in all, and increasing the daily capacity from 340 tons to 700 tons. It is expected that machines 5 and 6 will be producing early in 1926, which will bring the production up to 525 tons, and that the last two machines will be making paper by the summer of 1926.

For a period of 99 years, at a nominal cost of $1.00 per year, the Quebec Provincial Government has leased Valcartier Camp, the famous military training camp near Quebec City, and arrangements have been completed to transform it into a forest rangers' school. The camp will be under the direction of Gustave Piché, chief forest ranger of the province.

The Grand' Mère Journal, the paper of the Laurentide Company, has ceased publication, the last issue having appeared on August 22nd.

Chas. Walmsley and Co., (Canada) Limited, have recently made a number of Freeness testers according to the design of the Committee on Freeness Testing of the Technical Section. This apparatus was explained by E. P. Cameron, of the Forest Products Laboratories, at the winter meeting of the Technical Section. The instruments have been standardized and calibrated at the Forest Products Laboratories in order that results obtained by different mills will be comparable with one another.

John Price, president of Price Bros. & Co., and J. L. Apedaile, of the same company, have joined the board of directors of a company formed for operating an eleven-story apartment house in the city of Quebec.

It is learned from sources in close touch with the affairs of the company that Belgo is currently earning at the rate of 15 per cent on common stock. Howard Smith Paper Mills are also doing very well. The export business during the last six months has increased over one hundred per cent.

Bayless Wins $1,750,000 Suit—New Mill for Quebec

One of the biggest legal actions ever entered in the courts of Quebec City, involving $1,750,000, was closed a few days ago when Mr. Justice Stein delivered judgment dismissing with costs the action and attachment taken by the Leaside Engineering Co., of Toronto, against the Bayless Pulp and Paper Company, and others, of Binghamton, N. Y. The Leaside Company had also taken out a $550,000 damage action against the officers of the Bayless organization; but they have recently filed notice of discontinuance of this action. This is taken to mean that the Leaside Company will be quite satisfied to accept the decision of Justice Stein and will not carry the matter to the Court of Appeal or any other tribunal, as had at first been reported.

The way is now clear for the completion of the negotiations between Bayless Pulp and Paper Co. and the Mead Investment Company, which is connected with the Spanish River interests. It is understood that the Mead company will take over control of the Canadian interests of the Bayless organization, which consist of the Ste. Anne Pulp and Paper Co. and the Beaupré Pulp and Paper Co.; but the parent company at Binghamton will still retain an interest in the new concern.

It is understood that a $3,000,000 to $5,000,000 mill will be

Where Tax Payers Really "Shell Out"

In darkest Africa, where white men go only when accompanied by elephant guns and motion picture cameras, the natives still pay their income taxes with cowry shells.

For small change purposes the shells are strung 40 to 100 on a string. Since it requires about 25 of the longer strings to represent one good American dollar in purchasing value, it can be readily seen that the minting of shell money is no lazy man's task. A half-day's honest effort with native tools may enable an industrious workman to prepare 20 or 30c worth of cowry money for circulation.

A native chief, like any other ruler, has his expenses, and one within the present century is reputed to have collected 30,000,000 shells each year from his subjects.

Shells may very well do for those parts of Africa where the hand of civilization has only lightly touched. But in enlightened America we buy and sell, collect and pay, through the medium of little slips of paper, light, convenient, and more negotiable than the choicest cowry shells.

HAMMERMILL PAPER COMPANY

Erie, Pennsylvania

constructed in the near future either at Ste. Anne de Beaupré, or at Beaupré, near the City of Quebec.

To meet growing demands, International Paper will increase the capacity of its Kipawa bleached sulphite mill to about 250 tons daily, at a cost of between $1,500,000 and $2,000,000. Present equipment can take care of a production of 170 tons a day. The Kipawa mill, which originally cost about $17,000,000, is one of the most modern in Canada, and was one of two acquired by International Paper when it took over the properties of the defunct Riordon organization last spring. Operations have been conducted profitably since its acquisition.

Water Power Survey

A party of engineers, acting for the Quebec Streams Commission, left a short time ago for Lake Cabonga, one of the lakes at the head of the Gatineau, to prepare a topographical survey in view of the coming harnessing of water power at Chelsea by International Paper, and at Paugan Falls by Hull Electric. About 30,000 and 20,000 horse power can be developed at these two power sites, respectively.

The object in sending a party of engineers now is to prepare plans for the regularization of the waters of the Gatineau, which will facilitate the development work. Already the Streams Commission possesses air pictures, thus allowing preliminary plans to be worked upon.

New Eddy Machine Tuning Up Well

The newsprint machine of the E. B. Eddy Co., Hull, Que., has proved surprisingly successful in its early operations. The machine, which is rated at 100 tons per day, was not originally expected to produce much more than 60 to 65 tons daily during the first few months of operation. It is stated, however, that in approximately 10 to 12 weeks of production the output has risen consistently, and is now in excess of 90 tons per day.

This means that the installation was made in a manner which minimized those early hitches and worries always to be expected. The various parts of the machine "tuned up" with very little difficulty. Production of in excess of 90 tons per day from a 100 ton machine, even for one which has been operating for a number of years, is considered highly satisfactory, so that the success of this machine is all the more remarkable.

More than 1,000 men will be given employment in the woods this winter by Messrs. Simard and Tremblay, contractors, of Chicoutimi, who, it is stated, have been awarded a contract to cut 35,000,000 feet of pulpwood for the Wayagamack Co. The wood will be cut at La Flamande, about forty miles above La Tuque. The increased cut is required for the new 200-ton newsprint mill which Wayagamack is constructing at Three-Rivers.

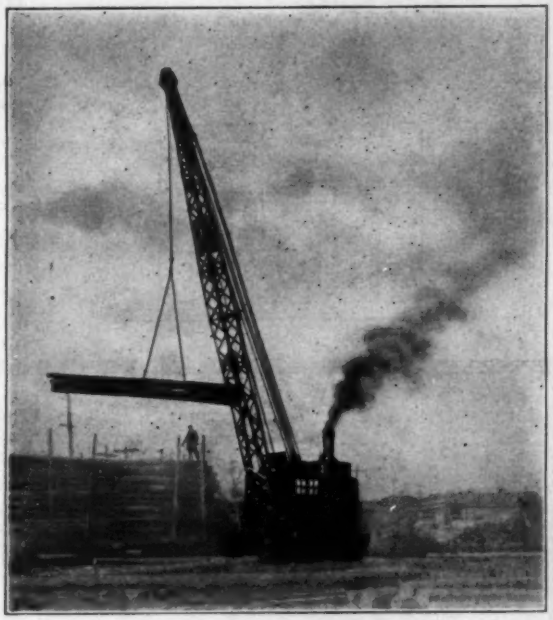
St. Lawrence Paper Mills, of Three-Rivers, is completing additions and extensions to its mills, including a modern sulphite mill of a daily capacity of 100 tons. It is announced that all surplus sulphite not required for the company's own newsprint mill has been sold under contract to Wayagamack News, which will shortly start up a 200-ton newsprint mill.

Recent incorporations at Quebec include the American Paper Box Co., Montreal, with authorized capital of $20,000.

Laurentide Shows 6.6 Per Cent on Capital

Showing profits well maintained, with a net showing equal to 6.6 per cent on its capital stock, with inventories lower, bank loan reduced, and working capital substantially increased, Laurentide Company, Ltd., has just presented to its shareholders in the annual report for the twelve months ended June 20, 1925, an exhibit which should prove a source of gratification for the many investors in this dean of the paper stock.

This showing was made in the face of quite a reduction in gross earnings, and thus would seem to answer the question



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Every part has been built so strong that it has a safe margin of strength over all service strains.

There are no open track rollers under the revolving deck to give trouble; no treacherous slip-ring; no relying on a central pivot for stability.

The machinery deck is a solid, one-piece casting. It remains rigid at all times and keeps working parts in alignment.

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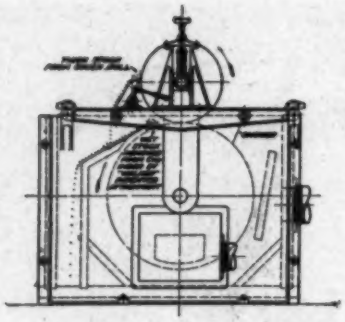

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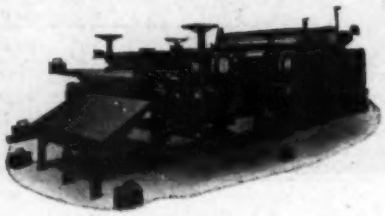
Our Deckers equipped with the Walker Attachment as shown in cut will increase your capacity 50% without requiring additional floor space, power and maintenance.

One firm has ten machines so equipped, which saved the expense of building a new Decker room.

Improvements in couch roll housings offer ready means for regulating consistency of stock.

It is a big advance in Decker design.

Write us today for further particulars.



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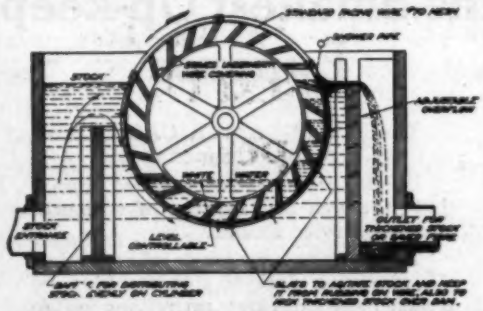
SINGLE AND DOUBLE PRESS
FOR CONVERTING CHEMICAL PULP INTO SHEETS 48% DRY

25-35 TONS air-dry pulp per 24 hours. Built in 72" width, with patented pulp weakening and separating device or our new automatic knife cut-off attachment. A real labor saver.

FREIGHT CHARGES are greatly reduced. Savings on this item alone often pay for the machine in one year.

All infringements will be vigorously prosecuted



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Only 2 H. P. Required	No Doctor
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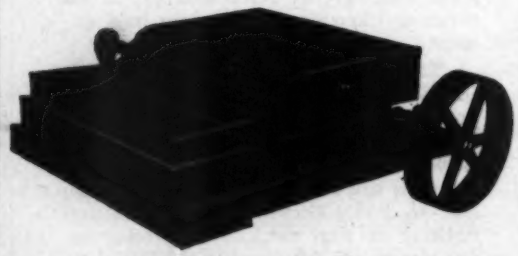

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Will bear closest investigation from every angle. It separates knots and slivers from all kinds of pulp efficiently, continuously, automatically with negligible cost for operation and upkeep. Simple but rigid construction. Only best materials used. Operation in plain view.

40 TONS DAILY CAPACITY, STANDARD SIZE. WRITE FOR BLUEPRINT AND FURTHER INFORMATION

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GLENS FALLS MACHINE WORKS

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OUR LINE IS MANUFACTURED IN CANADA BY

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as to whether Laurentide can effect economies to meet changing conditions. Timber reserves have been further increased during the year, and they are now sufficient to supply the mill at its present capacity for about forty years.

ONTARIO

Backus to Double Fort Frances Mill

By an almost unanimous vote, the citizens of Fort Frances, Ont., endorsed the agreement with the Backus interests for the construction of an additional one hundred and fifty-ton newsprint mill. Under the terms of the agreement, Mr. Backus will commence construction of the mill before October 1st next and will have it completed and in full operation by December, 1926. The town has consented to a flat assessment of $350,000 on the entire mill for a period of ten years, and the new mill will mean the employment of about four hundred men the year 'round.

Concurrently with the erection of the paper mill, the power company proposes to develop the Seine River. This will mean the bringing into Fort Frances of approximately 25,000 horse power. The expenditure on mill construction, Seine River development and electric transmission lines will total about $2,500,000.

Great Lakes Company to Construct a Newsprint Mill

Word has been received from Fort Milliam, Ont., stating that authoritative announcement has been made to the effect that the Great Lakes Paper Co. will begin very shortly the erection of a newsprint mill on the site adjoining the present 170-ton groundwood mill of the company. It is intended to complete the foundation walls this fall, and to place a large part, and if possible the whole, of the iron work. The mill will be finished next summer and will become one of the large industries at the head of the lakes.

Paper Mill Strike Settled

After twelve weeks' durations, the strike of the paper makers at the mill of the Fort William Paper Co. was settled early last month, and the men returned to work under the agreement originally in force. Both paper machines are now in operation.

Two hundred and thirty-five men had been kept idle for practically three months on account of the strike of thirty-two paper makers.

Increase Output of Soapstone Mine

Two carloads of new machinery were recently installed at the soapstone mine at Vermilion Bay, in the district of Kenora, Ont., and the capacity of the mine has thereby been trebled.

The mine is receiving orders continually, among the latest being one from a kraft paper mill in British Columbia. There is at present only one other mine in America, in Virginia, producing soapstone of a quality suitable for use in sulphate mills. The Canadian market is estimated to be able to absorb about half a million tons yearly.

The Mississaga Tie and Lumber Co., Ltd., has been formed, with an authorized capital of $1,000,000, and with head office in Toronto. James E. Murphy, of Toronto, is president, and C. E. Strickland, formerly of Saskatoon, Sask., and now of Toronto, is managing director. The company recently secured from the Ontario Government the cutting rights on six townships in the Mississaga reserve, through which flows the Batchewanna river. It is estimated that there are 300,000,000 feet of white pine on the berths, as well as a large quantity of jack pine and some pulpwood.

Dissatisfaction Over Mattagami Arrangements

Word has been received from Timmins, Ont., to the effect that the settlers in that district are rather indignant over the news that the Matagami Pulp and Paper Co., whose mill is at Smooth Rock Falls, will be sold this month and purchased for a sum which will only benefit the holders of debentures, and that preferred and common shareholders and other credi-

ACCURATE ASSEMBLY

Dynamically balanced rolls - machined frames and castings - gears, pulleys, special parts and chains are brought together and assembled to make Camachine Mill Type Winders.

Every part is fitted within the most rigid tolerances prescribed by machine shop practice.

This careful, painstaking workmanship of the highest class is reflected in the service which Mill Type Camachines render.

It takes a good roll-winder to make good rolls. Camachines are *good roll-winders* because they are designed right and built right.

A word from you will bring our catalogue of Mill Type Roll Winders. If you will tell us the kind of paper you make, the width of the web and diameter of the rolls you require, we will send you a quotation on the right Camachine for your work.

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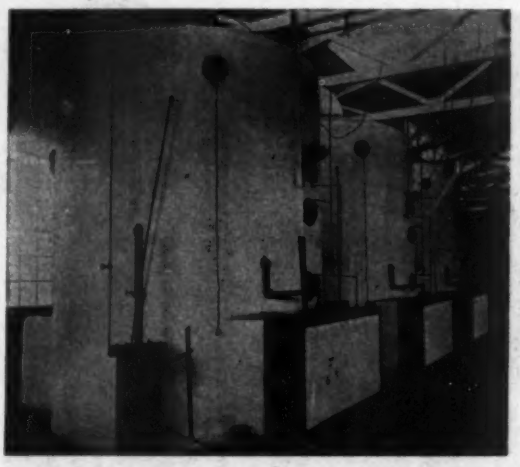

Triple effect illustrated above was installed fourteen years ago and is still going strong. As a result of its excellent work concentrating soda black liquor we have sold to the same concern sixteen large multiple effect evaporators.

FIFTY-EIGHT per cent of orders for Zaremba Evaporators are repeats. This is not due to superhuman salesmanship, but to the fact that they are designed to exactly suit conditions and are carefully constructed.

As a result Zaremba Evaporators have acquired an enviable and deserved reputation for efficiency, durability and reliability.

Evaporators

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Sulphate Black Liquor
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ZAREMBA COMPANY

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Accurate Weight is Essential

Howe Ball Bearing Scales are the symbol of accuracy—that's why *they are used throughout the Minnesota and Ontario Company's plant* at International Falls, Minnesota.

Paper mill operators want accuracy, sensitivity, trouble-free operation and long life from their weighing equipment—that's why they use Howe Scales.

Howe Automatic Scales increase production—accurate weight in 4 seconds—put one in your plant for weighing raw materials, pulp, or finished paper.

Write Department "F" for data on scales—any type, any size. Howe have been making them for 76 years—our scale experts are at your command.

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tors will get little or nothing out of the reorganization plans as at present proposed.

It is claimed that since the amount owing the debenture holders is only $4,000,000 and that, according to the statements of the receiver, the properties should sell for $7,000,000, there ought to be sufficient remaining to meet a portion at least of the claims of the settlers and the ordinary creditors.

The total amount due to the settlers is placed by the receiver at about $23,000, and the average due to the individual settler at about $450.

Doings at the Abitibi Mill

Work on the transmission line from Iroquois Falls to the recently-acquired power plant at Island Falls is moving on splendidly. The towers between the Falls and Stimson are all up, except two for which parts were missing, and a considerable part of the wiring is completed. Some nine miles of towers are up from Hunta east, and work is progressing rapidly on the line.

Spur construction at Mile No. 10½ has been completed and the track-laying crew has been shifted to Mile No. 9 spur, where work is going on at a good rate in spite of some inclement weather.

A change in screens on No. 5 paper machine was put through in record time. The two old screens were taken out, three new screens were installed, and the paper was coming over the calender stack within twenty-six hours after the work had been started.

The crew of No. 3 machine recently put a new wire on the machine in the record time of one hour and fifteen minutes.

The cement piers for the transformer house and the electric boiler house are complete, and the erection of the steel work is being rushed to completion.

Work on the new hospital is being pushed forward rapidly.

The Paper Makers' Union recently held a picnic at Harmon Lake for the special benefit of the youngsters at Iroquois Falls; and thanks to the splendid co-operation of all concerned the event was a big success, in spite of some rain which could not dampen the ardor of the picnickers. Upwards of 1,200 people were out for the good time.

Prominent Figure Passes Away

Sir Adam Beck, creator and architect of Ontario's great hydro power system, chairman of the Ontario Hydro-Electric Power Commission, noted horseman, and probably the best-known man in the Province of Ontario, died on August 15th at "Hedley," his London, Ont., home, from pernicious anemia, in his sixty-ninth year. The body lay in state at St. Paul's Cathedral, London; and the funeral, at which were present the Ontario cabinet and many noted persons, was held on the 18th. Burial took place at Hamilton, where Lady Beck was buried.

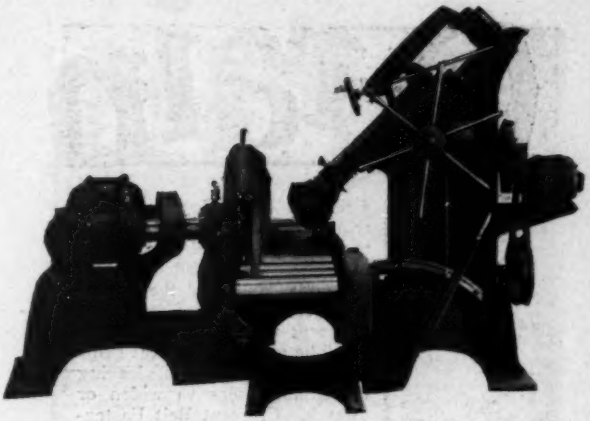
Kagawong Groundwood Mill

The new groundwood mill which is being erected at Kagawong, Manitoulin Island, under the supervision of L. A. De Guere, the well-known pulp and paper mill engineer of Wisconsin Rapids, Wis., will be known as the Manitoulin Pulp Co., a subsidiary of the Little Rapids Pulp Co., of Kaukauna, Wisconsin.

John Shure will be manager of this mill, which will be equipped with two S. Morgan Smith water wheels for 120-foot head. Two hand barkers are being supplied by the Appleton Machine Co., Appleton, Wis., a sawing machine by D. J. Murray Mfg. Co., Wausau, Wis., and the pumps are being supplied by the Northern Foundry and Machine Co. of Sault Ste. Marie, Ont. A wood pipe line is being supplied by Lyons Fuel & Supply Co., Sault Ste. Marie. The Sherbrooke Machinery Co., Sherbrooke, Que., are furnishing two four-pocket grinders and two 36- by 48-inch wet machines.

The mill is designed to produce fifteen tons of groundwood a day.

Many friends in the paper trade regret the death of George E. Shaw, of Toronto, who passed away recently in his sixty-



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It's all adjustable—to fit any local condition.

Green Bay Barker is one of the necessary pieces of equipment in any pulp mill. It is built especially for operation on spruce logs.

The many users are our best endorsement. Ask any mill who has them.

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first year. He was born in Pittsburgh, Pa., and came to Canada as a young man. For many years he was a partner in the Telfer Manufacturing Co., paper box makers, where he was held in high esteem for his character and executive ability. He is survived by his widow and two children.

Retail Lumber Dealers Visit Paper Mills

The retail lumber dealers of the provinces of Ontario and Quebec, to the number of nearly three hundred, held their annual midsummer outing to the Niagara district at the beginning of last month, and paid a visit to the large mills of the Ontario Paper Co. and of the Beaver Wood Fiber Co. at Thorold, Ont. All departments of the establishments were inspected, and the visit was greatly enjoyed.

At a subsequent banquet, Hon. James Lyons, Minister of Lands and Forests for Ontario, predicted a great future for the pulp and paper industry of the province on account of its great resources and the care and attention which was now being given them.

The annual picnic of the Montrose division of the Provincial Paper Mills was held from Thorold recently to Queenston Heights, where a most enjoyable time was spent.

The Hamilton branch of the United Paper Mills, Toronto, has removed from 64-66 John Street, to fine new quarters at 129-131 Rebecca street. The two upper floors are occupied and the firm has about double the space of its former premises.

T. A. Weldon, of the Provincial Paper Mills, Toronto, is now looking after the interests of the company in Western Ontario, and K. G. Troy, who until recently covered that ground, has been transferred to the city sales staff in Toronto.

According to an official report which has just been issued, the province of Ontario leads all the others in the Dominion so far as the production of paper boxes and bags are concerned. Quebec comes second, and Manitoba third.

Ontario has been remarkably fortunate in not having any destructive forest fires so far this season. This has been due to the general dampness of the weather, the vigilant work of the army of fire rangers, and the splendid aeroplane service, which has been doing effective patrol duty in the northern and northwestern parts of the province.

The employees of the Hamilton Paper Box Co., their families and friends, held their annual outing at Hanlan's Park, Toronto, recently, when a most enjoyable day was spent. A lengthy program of sports was run off, being filled with enjoyment for both young and old. The weather was all that could be desired, while the trip down on the boat was very much enjoyed by all.

Spanish River Changes

It is announced that Colonel C. H. L. Jones, has joined the directorate of Spanish River Pulp and Paper Mills, Limited, filling the vacancy left by the death of the late vice president of the company, Col. Thos. Gibson. Col. Jones and G. R. Gray have been elected vice presidents. With P. B. Wilson, there are now three vice presidents of the company, one for each of the three main departments, operation, administration and finance.

Spanish River Earned 17.7 Per Cent

Showing 17.7 per cent earned on the common stock and with a surplus of nearly a million dollars after the bondholders had received their proportion of dividends, with an improvement of over $400,000 in working capital position, which is nearing the $10,000,000 mark, and with funded debt reduced by $676,386, the annual report of Spanish River Pulp and Paper Mills for the year ended June 30, 1925, is about in line with expectations.

Having to compare with the 1923-24 statement, which was perhaps the most brilliant industrial exhibit of the year, the

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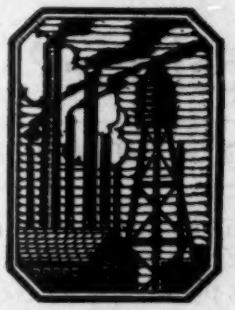

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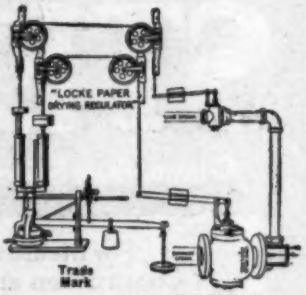
LOCKE Paper Drying Regulator



This regulator controls both live and exhaust steam for any purpose where steam is used, or it will control the direct steam when used alone. Is unlike, both in construction and operation, any device that has heretofore been designed for this purpose. Controls not only temperature of the dryers when paper is running over them, but maintains the same temperature whenever there is a break in the paper. This machine is most sensitive to any change in temperature of dryers, yet it has been found to be perfectly reliable and what is more, is not continually getting out of order.

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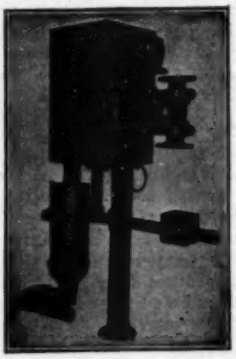

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Seamless felts for fast running.
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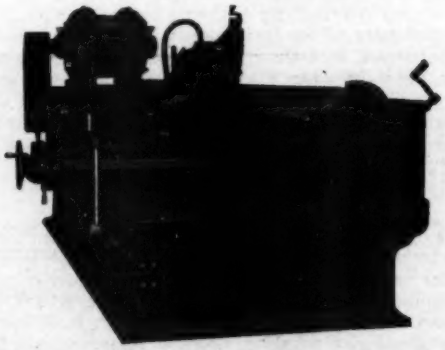

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Specialists of many years in saw and knife fitting machinery

statement under review naturally shows some substantial reductions, but it is considerably better than the 1922-23 showing, which itself was considered an excellent one. In this statement the company again shows its ability to meet conditions as it finds them in the industry, covering as it does a year of lower prices and smaller output than in 1923, and it is of a character to prove reassuring.

William Diggins, 23, married, was killed in the grinding machinery at the Provincial Paper Mills' plant at Port Arthur, last month. He is survived by his widow and one child.

The Dan Daverin Paper Mills, Camden East, Ont., have begun the manufacture of several lines of special papers in the plant which, after a long period of idleness, has been thoroughly overhauled and put in good shape.

MANITOBA

Branch Railway to Fort Alexander

No time will be lost by the Canadian National Railways in the construction of the Pine Falls branch railway now that the Spanish River interests have decided to build a newsprint mill at Fort Alexander, Man. The work will be done by private contract and this will be let soon after the date fixed for the closing of the tenders. There will be 500 men engaged in the work, which is to be completed by November 1st, and practically all the labor will be secured in Winnipeg, it is understood.

The branch will be built from Beconia, which is 48.5 miles from Winnipeg, and 10 miles from Grand Beach. This is the point which had been selected by J. D. McArthur as the starting point when the plan was first suggested to build the mill on the Winnipeg River, as it will run through a good settlement.

Pilot Durnin, of the Canadian Forestry Air Force, crashed some time ago at Mile 42, Comerant Narrows, on the line of the Hudson Bay Railway, and had a narrow escape from death. The plane, a one-seater scout model, landed in Comerant Lake. When rescued by a motor boat from the wrecked machine, Durnin was unconscious. He suffered a fractured jaw and other injuries.

Estimates of costs to supply power to the Spanish River pulp and paper mill to be erected at Fort Alexander are being prepared by the Hydro Electric System with a view to capturing the business for this industry from the start of operations. A rough calculation of expenditures indicate erection of the necessary transmission line to the power site will cost approximately $400,000.

Backus-Seaman Interests Apply for Charter

It is stated that the Backus-Seaman interests are conducting what is suspected to be a fight on paper against the Spanish-River-McArthur interests, who some time ago secured a concession in Manitoba which crowded out Backus. The latter countered with a demand for a like concession, and has capitalized a lot of feeling in Greater Winnipeg by promising to build there a 250-ton mill, whereas McArthur's like proposition has fallen through, and his mill will be built on the limits.

Backus is now trying to get limits in Northern Manitoba for the simple Crown dues of 80 cents per cord for spruce and 40 cents for other woods. "We are willing to set aside the land," said Hon. Chas. Stewart, "but the price to be paid and the bonus over the regular dues must be determined by public auction."

According to R. H. Webb, mayor of Winnipeg, owing to the satisfactory assurances in the matter of pulp wood areas given by Hon. Chas. Stewart, the Backus-Seaman interests have applied for charter to operate a pulp and paper mill under the name of the Winnipeg Pulp and Paper Co.

Reports that the Backus interests had made application at Ottawa for a lease of the Seven Sisters Falls on the Winnipeg River created a sensation at a recent meeting of the finance committee of the City of Winnipeg. Immediate action was taken by the committee and wires were dispatched to Mayor R. H. Webb, of Winnipeg, who was in Ottawa at

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THIS cross belt on a paper mill machine is a Rhoads Watershed Tannate. The cones are 59-in. x 61-in. and 55-in. x 53-in. in diameter with distance between centers less than 13 feet.

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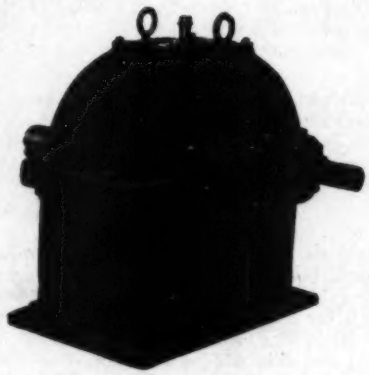

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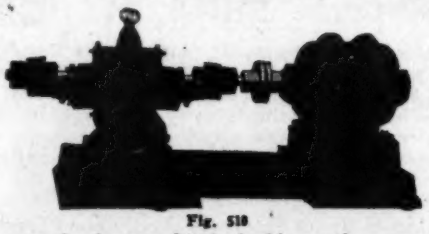

Fig. 510

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the time, to urge that the Government grant no leases to the Backus interests, and to Hom Charles Stewart, Minister of the Interior, and to Premier King, protesting vigorously the lease of the power site under any conditions. At the same time an emergency meeting was called to rescind previous motions passed in favor of the proposed Backus-Seaman Pulp and Paper mill.

The basis of the agitation occasioned by the report is that the Seven Sisters Falls are expected to furnish additional electrical power required in the near future for provincial and civic hydro enterprises.

Hon. Mr. Stewart wired back that the "Backus-Seaman interests have applied for an undeveloped water power of sufficient capacity either on the Winnipeg River or other locality sufficiently adjacent to their proposed mill for their purposes, but have not specifically mentioned the Seven Sisters site." He added that he would be glad to receive any representations which the city finance committee might wish to make.

BRITISH COLUMBIA

Heavy Fire Losses Last Month

British Columbia is paying an enormous price this season for forest fires that have raged through the bush and burned up settlers' farms at many points, as well as vast areas of valuable timber lands. The most devastating fires since the days of Indian tradition rushed through the Fraser River Valley, taking terrible toll along the coast and raging in the interior of the province. Up to August 15th a total of 1,913 fires had broken out in the province this year, as compared with 1,621 at the same date last year.

The rains of the middle of August gave a welcome relief to the worn-out fire-fighters and subdued the larger fires.

Another Paper Mill Projected

William Gorman, of Montreal, who for many years was eastern representative of Provincial Paper Mills, along with others, is negotiating with New Westminster, B. C., for the establishment of a paper mill in that city. The concessions asked for are a free site of about three acres and exemption from taxation for a number of years.

If negotiations go through, a building 396 feet by 220 feet is projected. At first about 60 persons would be employed, and the number would eventually be doubled. It is understood that the proposed mill would not compete in any way with the Westminster Paper Mills, Ltd., which have been established for some time in that city and which turn out about fifteen tons of toilets, tissues, towels, medium weight wrappings and bags.

Another Contract for Powell River Expansion

Another unit in the expenditure of $5,000,000 for improvements and expansion in the Powell River Co.'s mill at Powell River has been passed, and the contract has been let for two large concrete buildings on the waterfront. Already $1,000,000 was added this year to the plant in dam and water power improvements, as well as in the pulp mill, and by this time next year it is expected that $10,000,000 will represent the investment the company has made in this modern pulp and paper mill. The new unit will cost about $500,000.

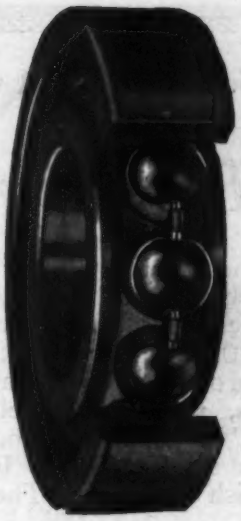
NEW BRUNSWICK

Provincial Elections May Affect Paper Developments

By far the most important event of the last month was the Provincial Elections which were held on the 10th, and which resulted in sweeping the Liberal Government from power, the Conservatives securing 37 of the 48 seats in the Provincial House.

The chief issues of the campaign were the stumpage dues and, especially, the Grand Falls Power development on which depends a considerable expansion of the pulp and paper industry in New Brunswick, including a newsprint mill projected by International Paper.

The refusal of the Veniot government to meet the request of the holders of Crown land leases in the matter of reducing stumpage and making the reduction retroactive in respect



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In your designing, use Gurney Ball Bearings to increase your factor of safety. Their unique design—using the largest possible number of largest size balls in uninterrupted raceways—gives them greater load capacity than other bearings of equal size.

This ability to carry extreme overloads gives longer life to Gurney Ball Bearing equipped machinery. Ask Gurney Engineers to help you increase that safety factor.

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The most convincing argument in favor of the use of BITUMASTIC SOLUTION is the performance of the paint itself. We are willing, therefore, to send a sample can, without charge, to interested executives and engineers.

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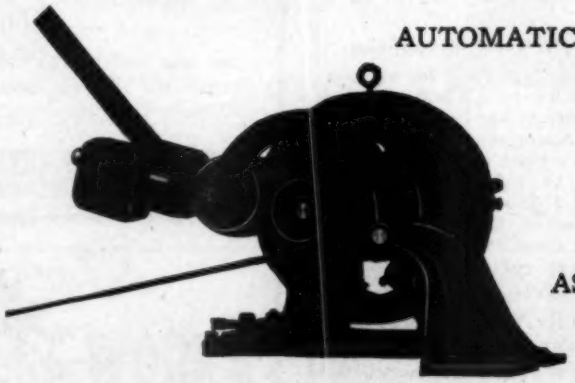

AUTOMATICALLY WRAPS BELT AROUND PULLEYS INCREASING ARC OF CONTACT AS LOAD INCREASES

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Makers of a general line of Power Transmitting Machinery including Motor Pulleys, Flexible Couplings and Speed Reducers

New England Branch: Cambridge, Mass. *Dealers in principal cities* Southern Office: Greenville, S. C.

to the cut of last season precipitated a clash between the lumbermen and the provincial authorities. A reduction of twenty-five per cent on the chief soft woods was made, although an increase in the rate of hardwoods accompanied it. The government, however, refused to make it applicable to the 1924 cut.

The dominating issue of the election was the development by the provincial authorities of the power of Grand Falls, on the St. John River, in which several pulp and paper companies are considerably interested. After considerable negotiations the government had been authorized by the International Joint Waterways Commission to proceed with the development. No time had been lost in calling for tenders, and the contracts for construction of the first unit had already been let. The Conservative opposition advocated a more thorough investigation of the possibilities of the project, and Dr. Baxter, leader of the party, had announced that the contracts let would be cancelled in the event of his accession to office. Now that he has been returned by a large majority, it is not likely that the work will be proceeded with until there has been a full investigation into the merits and scope of the undertaking.

Bathurst Pulp Going to Japan

Among the chief commodities of the Province which may be exported, forest products rank first in importance, and it is interesting to note that lately initial shipment of wood pulp left Bathurst for Japan. This is the first time that the Bathurst Company has sent its products to such a distance, and it is stated that there are good prospects of considerable trade developing.

The co-operation of the Canadian Government Merchant Marine service via the Panama Canal is said to have assisted materially in making this business possible.

NOVA SCOTIA

Investigating Possibilities in N. S.

Investigation of the power sites on the Liscombe River, Guysboro County, has been started by J. Ruddick, consulting engineer of Quebec, with a view to studying the feasibility of establishing a pulp and paper mill. Mr. Ruddick was in Halifax conferring on the subject with the provincial authorities.

He admitted that he is acting for pulp and paper interests in the United States, that are anxious to erect a mill in Guysboro County. If the proposition is shown to be feasible, Nova Scotia may soon have another pulp and paper mill under construction; but it is impossible to make any definite announcement until the Liscombe River sites have been thoroughly investigated.

Hydro engineers state that considerable power can be generated on the Liscombe River.

Pulp Burned at Shelburne

About one hundred and fifty tons of groundwood is thought to have been made practically valueless, one hundred feet of the Government wharf was destroyed, and eight hundred dollars' worth of lumber burned as the result of a fire which took place a few weeks ago in a four-hundred-ton pile of pulp on the Government wharf at Shelburne, N. S.

F. J. D. Barnjum, president of the MacLeod Pulp and Paper Co., Ltd., Milton, N. S., has appointed W. L. Hall solicitor for the Barnjum Paper Company, the new Barnjum project. Mr. Hall is a colleague of Mr. Barnjum in the Nova Scotia Assembly, both having recently been elected from Queens County, where the new paper mill will be constructed, and where the two pulp mills of the MacLeod Pulp and Paper Company, Limited, are located.

Announcement has been made that the Bear River Pulp Co. has passed into the hands of the Eastern Trust Co., which was appointed interim receiver by the Supreme Court of Nova Scotia. Less than two years ago the company operating the mill went into the hands of receivers and was sold at auction. It was the largest single industry in Annapolis County, and had been operating for just a short time after its reorganization.

A Reference Bulletin That Should Be on the Desk of Every Executive Who Is Concerned with Artificial Drying of the Product!

IF you use heated air in your plant—for drying operations; as part of a manufacturing process; for tempered air in humidity control systems; or for heating and ventilating—you or your executive in charge will be interested in Bulletin No. 24.

This bulletin contains valuable reference data on Chinook Indirect Heaters; a description of their construction, operation and application to industrial drying and heating and ventilating; with illustrations of typical installations and tables, diagrams and methods of calculation. It is a valuable reference book for the executive in charge of process drying and plant heating and ventilating.

The bulletin is sent free to industrial executives interested; use the coupon below or write on your letterhead.

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Bayley Mfg. Co.,
748 Greenbush St., Milwaukee, Wis.
Send me your Bulletin No. 30, descriptive of Chinook Heaters and containing valuable reference data.

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DEPENDABLE POWER

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Friction Loss Less Than 1½%.
From ¼ H. P. to 5,000 H. P.
Speeds from 6,000 to 250 R. P. M. or slower.

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LEFFEL

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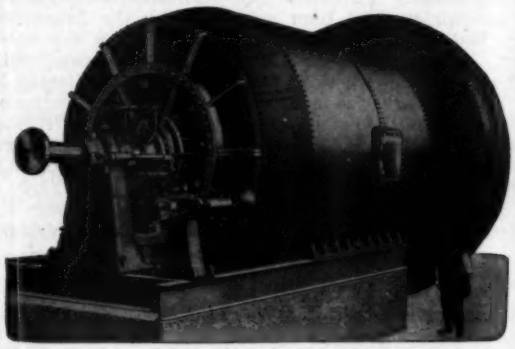

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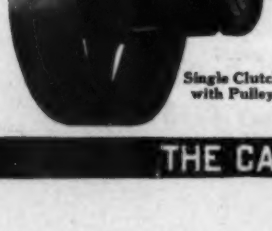

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High-Speed Clutches for All Paper-Making Machines

NOT all clutches can be run at high speed on account of their construction, but the Johnson Clutch can be operated at almost any speed on paper-making machinery. When the cup and hub are made from bronze and fitted with the Alemite system of lubrication, you are ready for high speed and dependable, long-life clutch service.

Write for Catalog "P.I."

Single Clutch Exterior

THE CARLYLE JOHNSON MACHINE CO. MANCHESTER CONN

British Correspondence

General Paper Trade Conditions

During the last few weeks, the conditions of the British paper industry have shown little signs of improvement. Some sections are, of course, worse off than others. The newsprint section is fairly busy, but many wrapping mills have closed down, or are on the point of closing down, owing to lack of orders. In answer to a question in the House of Commons last week, the Parliamentary Secretary to the Board of Trade stated that 22 paper mills had closed down during the year 1924-25.

Business is especially poor in the fine paper section, and makers of tub-sized papers are finding it difficult to keep their staffs fully employed. Some of the larger houses are kept going by export orders, but the mills which depend upon home trade are having a particularly bad time. There is a tendency on the part of users to lower purchase values, to meet which makers have added to their list lines of lower standard values. Standards generally are being lowered, and it will probably take many years to re-create the demand for high-class writing paper.

Producers of hand-made paper are still working below capacity, and a certain amount of short time is reported. No improvement can be expected until a general all-round improvement in business conditions takes place, as the hand-made mills are, like the fine paper section, very closely linked up with commerce.

1,000-Sheet Standard Adopted

In the future, paper in Great Britain is to be bought and sold on a new basis. An agreement was ratified last month between the Federation of Master Printers and the Wholesale Stationers' Association, standardizing the sizes of all cards and papers, abandoning the ream containing a variable number of sheets as the basis for selling, and substituting for it, 1,000 sheets, thus securing the advantages of decimal calculations. By this arrangement, stocks will be reduced, calculations simplified, and errors minimized, this reducing the costs of production in the printing industry.

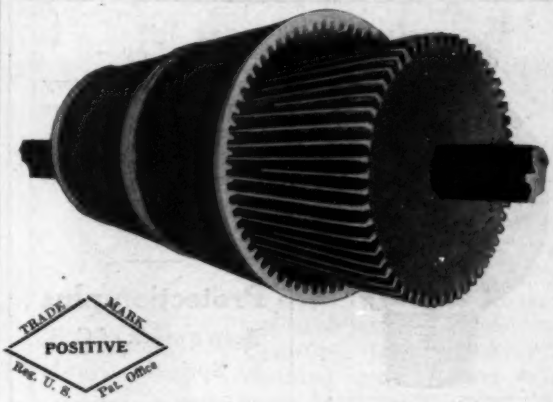
The Federation of Master Printers has long been aware of the disadvantages of the existing system, or rather want of system, and has contended for some time that definite standards should be adopted.

Under the new standards, a paper sold by name, such as foolscap, demy, etc., will always be of the standard size, and any "off size" paper will be described by its measurement in inches and not by name. Much confusion and uncertainty will be eliminated by this change. Paper has hitherto been sold by the ream, which contains a variable number of sheets, usually differing according to the class of paper. Under the scheme of standardization, all papers will be sold per thousand sheets and packed in thousands, reams of 500, or packages of 250, according to the weight and size of the paper.

In the future, all paper prices will be per mille, and in this connection, the Master Printers' Federation has compiled and issued a ready reckoner chart of conversions from ream to mille price and per decimal fraction. Of equal value to the mille basis is the adoption of decimal specification for substance thickness of boards to replace the entirely irrelevant thickness terms hitherto employed. Instead of being vaguely specified as three-sheet, thick, or double-thick, etc., it is agreed that boards shall have their thickness denoted in thousandths of an inch.

The Controller of His Majesty's Stationery Office, who is the largest purchaser of paper apart from the big newspapers, has made independent investigations into this matter and has decided to standardize all his methods of dealing in paper on somewhat similar lines. He has adopted a standard ream containing 500 sheets which can, of course, be priced at so much per thousand sheets, as the basis for all work at the stationery office, and, by fixing sizes and standard colors, the stocks required will be very considerably reduced.

The decision to issue all papers bearing size names to standard sizes will mean a great saving to printers. Paper reckonings by estimating clerks have never been reliable unless they have made habitual use of the measure. In fu-



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Multiple Gear Chain Blocks

ARE PUT TOGETHER AS CAREFULLY AS A WATCH, with every detail for hard service considered.

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Keep a stock of C. S. B. Sprinkler Heads on hand at all times. If a fire breaks out, the opened sprinklers can be quickly replaced and protection restored without delay.

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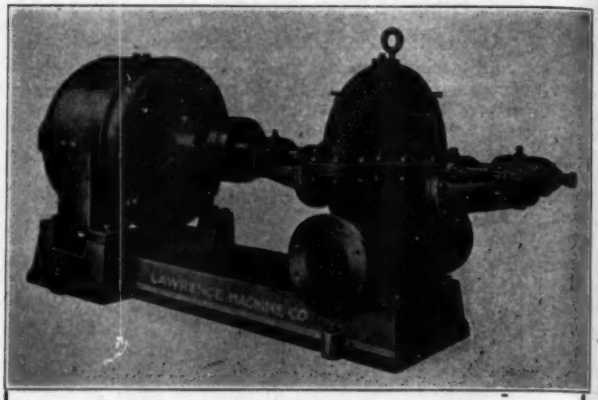

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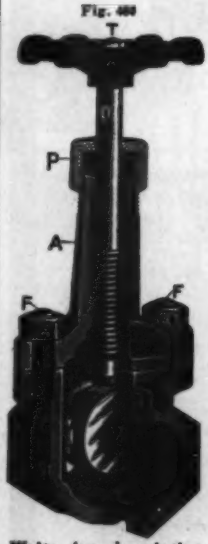
"Pilot" Gate Valves



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All iron or iron body with steam bronze trimmings. Simple in construction.

Working Pressure up to 125 lbs.

Economical and Reliable

Avoid disappointment in Valve Service by specifying POWELL VALVES

The Wm. Powell Co.
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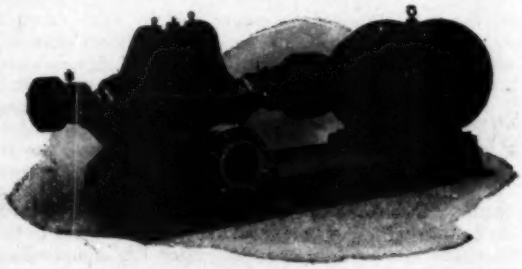
Aurora Centrifugal Pumps



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Aurora pumps are made in many types, to meet all conditions found in the paper mill field.

We specialize in horizontally and vertically split open and inclosed impeller, single and multi-stage and deep well turbine centrifugal pumps as well as deep well reciprocating pumps.

A card from you stating your conditions places our engineers at your service and results in a saving to you.

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Home Office and Factories, Aurora, Ill., U. S. A.

ture, a medium sheet is a sheet of fixed dimensions, which at present it is not, and the same applies to all other named sizes.

Paper Pulp from Bamboo

It is reported in England that the Indian Tariff Board states that it has been proved possible to make excellent paper from bamboo, and they recommend that the British Government should provide capital to enable the Indian Paper Pulp Company to increase its output from 2,500 tons to 5,000 tons yearly. The Board also suggests an investigation into the possibility of creating an extensive manufacture of paper pulp from bamboo.

If the British Government takes action on the recommendation of the Tariff Board for the application of protection to the Indian industry, a substantial amount of England's trade with India in paper manufactures will be affected.

In the last fiscal year, India imported nearly 1,750,000 cwt. of paper and pasteboard, the shipments from England including 106,000 cwt. of printing paper, some 85,000 cwt. of writing paper and envelopes, and 15,000 cwt. of packing paper. The monthly returns do not show what proportion of other branches of the trade came from the United Kingdom. Germany, Norway and Sweden are large exporters of paper to the Indian market.

It is considered that bamboo pulp holds immense possibilities for the production of cheap paper in India. It is now some years since really good paper was made in India from such pulp; but Sir Thomas Holland's Industrial Commission, reporting in 1918, attributed this to the lack of adequate information regarding the cost of transport of the raw material and doubt as to the capital outlay necessary on plant and machinery. Additionally, there was uncertainty as to the cost and quantity of the chemicals required in the manufacturing processes. There was also fear that the new undertaking might be crushed by the dumping of wood pulp from Scandinavia or North America, and it was also known that Japanese experiments in this direction had proved unsuccessful.

Pacific Coast News

September 1, 1925.

New Mill for Mt. Vernon, Wash.

With the filing of a petition for a Delaware corporation charter for the Mount Vernon Pulp and Paper Company, credence is given rumors current in Mt. Vernon that the city is about to obtain a new industry with an estimated payroll each month of $75,000.

Pulp and paper of all kinds are to be manufactured and straw and wood pulp will be turned out, these two materials being used to a large extent by the mill itself, although some will be shipped to other countries.

Eastern capital is financing the proposed factory according to reports.

A. J. Lewthwaite Promoted

A. J. Lewthwaite, for so many years managing director of Crown-Willamette Paper Co., with offices in Portland, has been transferred to San Francisco with offices at 238 Battery Street.

Mr. A. Bankers, for the past five years his assistant, has been appointed resident manager of the company with offices in Pittock Block, Portland, Ore.

Mr. A. J. Lewthwaite started as a paper machine helper in the mills of the old California Paper Co., at Stockton, Calif., later going to Oregon City, Ore., and worked his way up through the mill until in 1894 he left and went to Wisconsin at Niagara where he was kept for one year, going from there to New York with the Remingtons.

In 1906 he returned to the Pacific Coast and entered the employ of the Crown-California Paper Co., as manager, with mills at Oregon City, and Camas, Washington.

At the time of the consolidation with Willamette Pulp and Paper Co., Mr. Lewthwaite was resident manager of Crown-California Paper Co., and B. T. McBain was resident manager of Willamette Pulp & Paper Co. After the consolidation

It makes good at the factory first

Fig. 368
Screwed, Jenkins Standard Bronze Gate Valve, with outside screw and yoke.

Every genuine Jenkins Valve goes to its user fully tested and guaranteed.

In the testing of a gate valve, each side of the double-faced wedge is subjected to a practical test. This thoroughness is typical of Jenkins manufacture.

There are Jenkins Valves in standard, medium and extra heavy patterns for practically every valve requirement. At supply houses everywhere.

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Always marked with the "Diamond"
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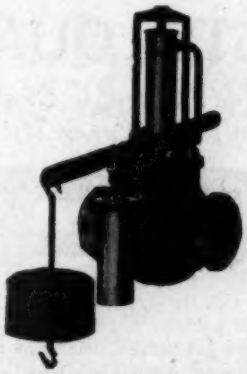
SINCE 1864



ONE engineer had a 250-pound wife and another engineer got the same results with a 125-pound wife—with less operating cost. Some engineers use 250 pounds steam pressure when 125 pounds pressure would give the same results—with less steam cost. Davis Pressure Regulators save steam cost by reducing steam pressure.

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STEAM SAVERS SINCE 1875
SPECIALTIES

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Morey Paper Mill Supply Company

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BRANDON 3-PLY "TRI-UMPH" AND STANDARD WARP

Deckle Tape and Cutter Webbing—Cotton and Rubber Belting—Enamelled, or Rubber, Fourdrinier Aprons—Rubber Splicing Tissue—Neutral Soap Powder—Dryer Felt Sewing Twine —Superheat Asbestos Packing—Rubber Sheet Packing—Steam and Water Hose "Lambeth" Cotton Transmission Rope

PRESSURE PIPE THAT NEVER BURSTS
Built in sizes 1 inch to 48 inches

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The Paper Industry is successfully using thousands of feet of this Pipe and they find it to be the best conveyance for Paper Stock and Acids that can be obtained.

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Riley Stoker Corporation

A Type for Every STOKER Need

WEBSTER QUALITY

Steel and Malleable Chains for Pulp and Paper Mills

WHATEVER the type of chain that best meets your own peculiar requirements, Webster has it, and when you have made sure that the chains you employ in your mechanical handling devices bear the —Z— trade-mark of the Webster works, you have gone a long way toward profitable operation in your plant.

Webster chains for mechanical handling devices in pulp and paper mills consists of pintle chain, detachable chain, combination steel and malleable iron chain, riveted and detachable drag chains, and steel pushed roller drive chain.

Our 96-page catalog No. 46, covering our complete line of chains and sprockets, will be forwarded to you on request.

THE WEBSTER MFG. CO.

4500-4560 Cortland Street
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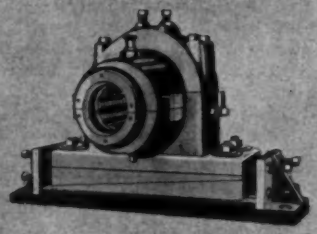
"VALLEIRON"

"HERCULES HYATT"

DUST PROOF ROLLER BEARINGS
POWER TRANSMITTING APPLIANCES



—INDISPUTABLE FACTS—

THE ROLLERS ARE FLEXIBLE: Their slight flexibility takes care of irregularities in the surface of the shaft as well as all shaft distortions caused by belt pull or misalignment of shafting.

IT IS SELF-LUBRICATING because each of the hollow helically wound rollers acts as its own oil container and oil distributor, insuring positive lubrication over all rolling surfaces. There is no oil leakage and the economy is such that lubrication three or four times a year is sufficient in most cases.

IT IS DURABLE because its steel rollers are capable of giving years of hard service with no appreciable wear. It is not affected by shock loads, vibration or by other loads within the capacity of the shaft.

POWER SAVING: By eliminating 50 to 80 per cent. of friction, make possible a saving of 10 to 25 per cent. on the whole power transmitted. This power saving at forty to fifty dollars per horse-power per year will result in a return on the investment of from 50 to 125 per cent.

VALLEY IRON WORKS

WILLIAMSPORT, PA. U. S. A.

"VALLEIRON"

A. J. Lewthwaite and B. T. McBain ran things together until 1921 when Mr. McBain left the company and went to Wisconsin with Nepco.

Mr. Lewthwaite has made a continual rise in his connection with the Pacific Coast industry and the paper industry will not be surprised to learn some day of his being elected to the presidency of this great Pacific Coast consolidated company.

Mr. and Mrs. Walker of Ocean Falls, B. C., were in Portland, Oregon, recently. Mr. Barker is Assistant Manager of the Pacific Mills, Ltd., at Ocean Falls.

Activities and Changes at Columbia Mills

The Columbia River Paper Mills of Vancouver, Wash., has gone into the manufacture of newsprint with a vengeance and are reported to have taken contracts for 1926 in many of the Pacific Coast smaller important cities. It seems that the News Print Service Bureau will have to consider this new Vancouver industry as a factor in the news game in the future.

A visitor at the plant of the Columbia River Paper Mills during the month of August, was Mr. L. L. Leadbetter, manager of the California-Oregon Paper Mills, Los Angeles, Cal., who spent a considerable amount of time looking over equipment and studying the processes in use there. Mr. L. L. Leadbetter is a brother of F. W. Leadbetter, president of both the Columbia River Mills and the California-Oregon Company.

Other visitors during the month were Mr. S. H. Brilliant, manager of the J. H. Newbaurer Co., paper distributors of San Francisco, and Mr. Howard Ruweler, Pacific Coast representative of the Cupples Company. Both of these gentlemen during their visit at the mills took a short course in paper manufacturing and were given post graduate certificates.

C. A. Watts, office manager of the Columbia River Paper Mills, died on August 21 and was buried on Monday, August 24. Mr. Watts had only been connected with the paper industry for a little over a year, yet he had become well and favorably known to the industry at large.

Through promotion, his position was filled by Emmet J. Carey who has been on the Pacific Coast only six months, coming to the Columbia River Paper Mills from Nepco Mills at Port Edwards, Wis., where he was with B. T. McBain, the present general manager of the Columbia Mills. While Mr. Carey is a young man he has a good general knowledge of the workings of the industry and has many friends East and West who wish him merited success.

Bids are now being received at Salem, Ore., for the construction of the building to be built at that place by the newly incorporated Western Paper Converting Company. E. A. O'Neill is manager. Contract will be let for a one-story building to cover an area 100 by 240 feet. The walls will be of steel sash and glass with concrete supporting walls with either steel or wood trusses. The plan is to build in twenty-foot bays so as to permit future expansion and extension.

Herb Brothers, of New Westminster, B. C., are considering erection of a pulp mill at Bellingham, Wash., to cost about $75,000. Construction of an additional unit will be considered later. Application to the city has been made for delivery of water.

A hearing before the department of public works on the complaint of the Crown Willamette Paper Company of Camas against Northwest railroads, seeking a reduction in freight rates on wrapping paper and fruit wrappers, which was due to be held on July 29 has been transferred from Olympia to Seattle and will be held in the rooms of the Seattle Chamber of Commerce.

Three carloads of machinery have been received by the Pacific Straw Paper & Board Company, which is installing machinery at its plant on the Cowlitz River south of Kelso and Longview. The shipment came by rail instead of water in

Progress in Paper Making

WITH progress in American paper making, we are concerned and connected. To commemorate the advances that have been made, the more important annals of the industry will be recalled from month to month in this space.

Watermarking Machine-Made Papers

In 1830, Thomas Barratt, an English paper maker, obtained a patent for inserting a watermark and the maker's name in continuous paper so as to resemble in every respect paper made by hand.

In the following year, Jean Jaques Jaquier obtained a patent for making continuous paper with wire marks similar to the laid hand-made papers.

Today, the Cheney Bigelow Wire Works are headquarters for laid and wove Dandy Rolls, with or without watermarking devices.

Established 1842

Cheney Bigelow Wire Works

Experienced and Progressive

Fourdrinier and Cylinder Wires
Dandy Rolls and Cylinder Moulds
made and recovered

SPRINGFIELD, MASSACHUSETTS

[Announcement]

RATE REDUCTION ON CASEIN FROM CALIFORNIA TO EASTERN POINTS

WE are pleased to announce to our friends of the paper trade that our application of April 7th, 1924, for a reduction on the present freight rate on Casein from California to eastern points has been finally approved. The new rate of $1.00 per cwt., replacing the present rate of $1.28 per cwt., will become effective September 15th, 1925.

¶ The new rate of $1.00 per cwt., carries a minimum of 50,000 lbs., and applies on all shipments as far east as Pittsburgh, Pa.

¶ We wish to extend our sincere thanks to all of the mills who co-operated with us to make this reduction possible, and particularly to the Champion Coated Paper Co., of Hamilton, Ohio, whose assistance was invaluable.

UNIVERSAL BY-PRODUCTS COMPANY, *of San Francisco*

FOR SALE: Slightly Used Beaters

1—2000 Lb. Allen Breaker Beater (nearly new).
Will sell the above "as is" or factory rebuilt.
ALSO
3— 800 Lb. Beating Engines, rebuilt with new wooden tubs.
THE NOBLE & WOOD MACHINE CO., Hoosick Falls, N. Y.

WANTED—Fully qualified MECHANICAL ENGINEER with Paper Mill experience, for 500 ton mill in Quebec Province. Send full particulars and salary asked to Box No. 78, The Paper Industry.

MACHINE DESIGNER—Engineer Graduate, at least ten years' practical experience designing paper-making or converting machinery. Steady position. Apply by letter only, stating salary and references. Cameron Machine Company, Poplar Street, Brooklyn, New York.

WANTED—Paper Makers—Machine Tenders, Back Tenders, Third Hands for fast-running newsprint mill—Applicants please give age and experience in first letter. Address: Box No. 77, The Paper Industry.

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PULPWOOD

REQUIREMENTS

Finest quality Spruce, Poplar, Balsam or mixed. Sap-peeled, Rossed or with Bark on. Large or small quantities. Prompt shipment or contract for 1926 delivery.

The Erickson Tie & Lumber Co.
Sudbury, Ont., Canada
U. S. Representatives
E. J. BERGER & CO.
1400 Broadway New York City

Selling for "High Dollar"

Entire mill equipment including complete chemical recovery building with incinerators, Disc Evaporators, tanks, etc., pumps, belting, air compressors, digesters, etc., etc., of Hinde and Dauch Pulp Mill, Portsmouth, Va. Buildings will be dismantled and no reasonable offer for any equipment will be refused.

Technical Economist Corporation
(Liquidators)
40 Rector Street, New York, N. Y.

Paper Mill Machinery

Two Super Calenders 54" Norwood with cotton rolls.
Three Super Calenders 66" Holyoke with paper rolls.
Two Ream Cutters 76" Smith & Winchester.
One Ream Cutter 44" Seybold, 20th Century.
Two Shredders Mitts & Merrill, No. 17.
Two Lannoye Pulpers No. 2.
Three Wet Machines 72" Sandy Hill.
Six Washing Engines, Horne, with four cylinder washers.
Six Beaters, Jones, 66" x 57".
Two Moore & White four drum winders.
One two drum winder and slitter, 103" Beloit.

For sale by

FRANK H. DAVIS CO.
175 Richdale Ave. Cambridge, Mass.

order to save three weeks time on the installation and the final shipment of machinery will arrive about the middle of next month. The machinery comes from Middletown, Ohio.

C. A. Watts, secretary of the Centennial Corporation and office manager for the Columbia Paper Mills Company of Vancouver, Wash., committed suicide August 20 by shooting himself. A widow, one small daughter and his parents survive. No reason is given for the act.

The J. W. Fales Paper Company, Seattle, has changed its name to "J. W. Fales Company."

Ohio News

September 1, 1925

Miami Superintendents Elect Officers

Miami Valley division of the American Pulp and Paper Mill Superintendents Association at their regular meeting in the banquet room of the Manchester Hotel, Saturday night, August 30, elected Homer C. Ferguson, of the Champion Coated Paper Co., Hamilton, chairman, B. M. Bishop, of the Gardner Harvey Paper Co., Middletown, vice chairman, and G. S. Martindale, of the Champion Coated Co., secretary-treasurer.

Alexander Dunkan, of the Western Paper Manufacturers Chemical Co., of Kalamazoo, Mich., was the principal speaker and illustrated his talk by exhibiting pictures upon the manufacture of rosin, setting forth the difficulties met in meeting the paper manufacturers' requirements. The round table discussion proved highly beneficial to the members of the association.

Fire in Paper Stock House

Fire, which broke out Friday, August 21, was diastrous to the plant of the Fried Paper Stock Co., of Hamilton, and caused a loss estimated at $60,000 to the building and contents. Part of the loss was covered by insurance.

The fire of unknown origin started in the warehouses of the company and before the fire companies could reach the scene, the entire building was gutted by flames. Employees in the warehouses had just left the building for the noon hour when the blaze was discovered and in less than twenty minutes the building was a roaring inferno.

There were between 200 and 300 carloads of paper and rags in storage. The plant of the Fried company was of brick construction, with the exception of a small wooden addition. It was built almost a century ago and used as a malt house many years by its original owner, John Shelley.

John Gibson, Jr.

One of the best experts upon the manufacture of paper in the Miami Valley was lost to the industry a month ago in the death of John Gibson, Jr., 48, president and treasurer of the Wrenn Paper Company.

Mr. Gibson was one of the outstanding figures in the blotting paper industry, having been associated for many years with the late Austin Smith in Richmond, Va., and coming to Middletown with Smith fifteen years ago when they purchased the Wrenn Paper Company. In Richmond, Va., both were connected with the Albemarle Paper Manufacturing Company.

Beckett Paper Co. Increases Group Insurance

Expansion of its group insurance program, underwritten by the Metropolitan Life Insurance Company, has resulted in increasing the total life insurance coverage on employees of the Beckett Paper Company, of Hamilton, O., from about $240,000 to almost half a million dollars.

The entire cost of the original insurance is borne by the Paper Company. Each employee, after completing six months' service, is insured for $500. This amount is increased $100 on each anniversary of employment until a maximum protection of $1,000 is attained. The present new policy is on a co-operative basis, employer and employees jointly paying the premiums. Each contributing employee is insured for an additional $1,000.

Both contracts contain clauses which guarantee the full amount of his insurance in equal monthly installments to any employee who becomes totally and permanently incapacitated before age of sixty.

Supplementing the actual provisions of the policies, which include exemption from medical examination, the Metropolitan Life offers service advantages. These include a free visiting nurse service and the distribution of pamphlets on health subjects and sanitation.

Sabin Robbins Middletown Office to Cincinnati

Removal of the Sabin Robbins Paper Co. interests from Middletown is expected before next summer following the announcement that it has acquired the entire plant of the Clifton Springs Distillery, Cincinnati, for its new business home. The building, located at the corner of Springrove and Ludlow streets, Cincinnati, is now being remodeled to receive the paper jobbers before the summer of 1926.

The new property of the company occupies approximately 17 acres of land, which would permit larger expansion than its holdings in Middletown. The property is bisected by the new Rapid Transit Electric belt now being built around Cincinnati, and is bisected by the main tracks of the Baltimore & Ohio railroad.

The Sabin Robbins Co. is one of the oldest of the paper merchants in Middletown, being founded fifty years ago by Sabin Robbins, Sr., deceased. It ranks among the largest of the concerns dealing in paper seconds in the United States, maintaining offices in St. Louis, Detroit, Cleveland and Cincinnati.

The company is headed by Sabin Robbins, Jr., president; Douglas Robbins, secretary and treasurer; John Seagraves, vice-president; D. W. Whitelaw, vice-president, and C. W. Dickerson.

Nathan Leshner, head of the Leshner Paper Stock Co., Inc., with main offices and warehouses in Lockland, O., and branches in Cincinnati and New York City, sailed on the steamer Leviathan August 15 for a business trip to Europe. He will remain abroad about six weeks.

A new concern under the name of Frank & Kaufman has been organized to deal in paper mill supplies with offices at 321 Broadway, New York. Both Messrs. Frank and Kaufman are well known in the paper stock trade.

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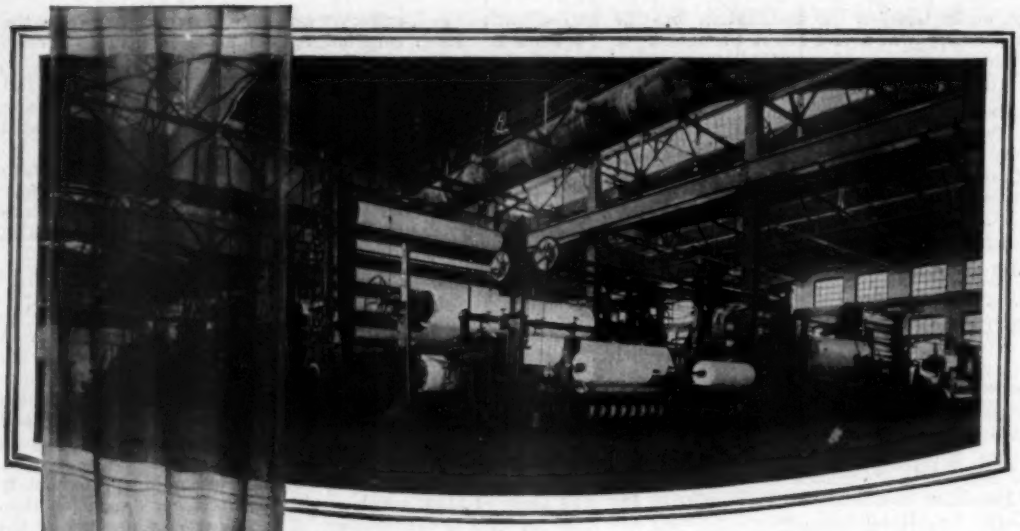

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—*for dryer roll bearings*

IF you could watch your bearing grease in action, you would see that it forms a thin lubricating film that reaches the innermost parts of your bearings. This film alone must protect your bearings from deadly heat and grinding friction.

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Tycol Yarn Grease

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Tycol Yarn Grease is a combination of Tycol H.T. Grease and long, stranded, new wool yarn. It assures a slow and constant feed to the bearings at all times. It greatly reduces labor charges in repacking the bearings. The wool yarn base can also be used over and over again simply by replenishing it with Tycol H. T. Grease.

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Technical Developments in the Paper Industry

Domestic and Foreign

The following abstracts are of the latest developments found in the foreign press and the domestic and foreign patent offices. Photostats and translations of complete articles and patents can be obtained at cost price.

Relative Strengths of Wood Pulp

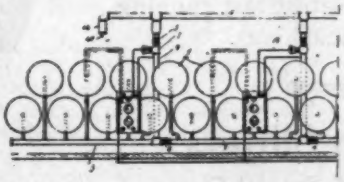
AN INTERESTING article has appeared in Der Papierfabrikant, 1925, Vol. 23, pages 234-41, by Dr. Schwalbe, on the determination of the strength of various kinds of wood pulp. In this article it is brought out that the strength of a pulp is a function of three components. The first of these is the absolute tensile strength of the fibers. Then there is the felting quality of the fibers, which means the condition or property which is determined by the influence of adhesion, hydration and milling. Finally, there is the structure formed by the disposal of the fibers relatively to each other in the sheet.

A satisfactory valuation of commercial wood pulps can only be obtained after development of all these factors by beating and forming into sheets under standard conditions. Beating in beaters on a laboratory scale is not sufficiently controllable, but the ball mill on the other hand gives comparable results. In order to avoid complications which are introduced by the impact-action in the ordinary type of ball mill, there has been designed a mill which contains a single large and heavy ball in a revolving ellipsoidal shell, whereby rolling friction without impact is continually maintained.

The mill is constructed in two sizes for laboratory purposes. One of these sizes holds two and one-half grams of the air-dry pulp and the other fifty grams. With this type of mill, the test results are entirely consistent and independent of the manipulator. The pulp must be prepared for the ball mill by passing it through a tubular kneader, which is similar in its action to the "separator," which is used for reducing the boiled half-stuff on the large scale. The beaten pulp is collected in a rectangular funnel, which is made with removable sides and which is provided with a tap and a reinforced sieve on which the sheet of paper is formed.

Temperature Control in Paper Drying

THE illustration shows an apparatus which is employed in conjunction with a papermaking machine for the purpose of controlling the temperature in the drying part of the machine. The cylinders of the dry end of the machine are seen and means are provided for controlling the temperature in selected cylinders. United States Patent, No. 1,547,481.



Making Sulphite Pulp with Magnesia Containing Liquor

AT A recent meeting of the German Paper and Pulp Chemists, Dr. Schwalbe delivered a talk on the manufacture of sulphite wood pulp with fresh liquors containing magnesia. The use of such liquors is rather common, and they have generally been employed in the manufacture of wood pulp from resinous woods. It has been found that the magnesia-containing liquors are more stable for one thing than the regular calcium liquors. For example, it has been shown that the pure magnesia liquor, when subjected to heating under pressure, does not undergo any separation of neutral sulphite, while in the case of the mixed calcium and magnesium liquor the separation of neutral sulphite is always less than in the case of the straight calcium liquor.

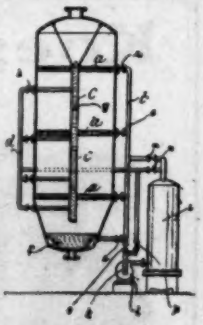
Dr. Schwalbe brought out the fact that the use of magnesia liquors for the manufacture of sulphite pulp affords the advantage of safer operation. When the fibers are digested with pure calcium bisulphite, it is found that they adsorb up to 44 per cent of the available lime, while when a mixed liquor is employed, the degree of adsorption is only 22 per cent, and when a pure magnesium bisulphite is used, there is no appreciable adsorption at all. Then again, while the adsorption of lime in the regular calcium bisulphite process is rapid at the start and then gradually ceases and finally towards the end of the digestion recommences, the adsorption of the magnesia base is noticeable only at about the middle of the digestion process, and towards the end of the digestion the concentration of the liquor becomes the same as that at the beginning.

The yield of pulp that is obtained when the wood is digested with a mixture of calcium and magnesium bisulphites varies between 44 and 45 per cent, while it is increased to 52 per cent when the liquor contains considerable amounts of magnesia.

Analytical investigation of the pulps obtained showed no noteworthy differences. It appears, however, that the magnesium liquor does not dissolve out as much of the pentosans as the normal sulphite solution. The bleachability of the pulp was found to be good. The consumption of chlorine for this purpose varied between 13 and 14 per cent. The ash content of the pulp was considerably less in the case of the pulp made with the aid of magnesium bisulphite.

Circulation System for Pulp Digesters

THE illustration shows a circulating system which is connected to a pulp digester, as patented in United States Patent, No. 1,548,477. The digester is connected with a heater (i), which is outside of the digesting vessel. This heater is connected with a pump (k), which is employed for circulating the liquor through the system. A perforated tube (C) is mounted in the digester. There are also arranged one or more annular perforated tubes which surround the tube (C) and which are spaced from one another in the digesting vessel. Suction and pressure tubes are also connected with the centrally disposed and annular perforated tubes with the pump and the heater.



Centrifugal Separator for Wood Pulp

A SEPARATOR for removing the impurities that are found in wood pulp consists of a non-perforated drum, which consists of a number of stepped cylindrical sections, increasing in diameter upwards from the feed or the bottom end. A rim projecting inwards is provided at the top of each section and determines the thickness of the layer of material which is held in the section. One or more of the upper sections may be provided with rings just below the rims, and spaced both from the axis and from the circumference of the section, overlapping the inner edge of the rim both ways, so as to retain impurities that are lighter than the bulk of the pulp. The pulp is fed continuously, and after purification flows out continuously over the top rim until it is necessary to stop and remove the separated particles. British Patent, No. 233,608.

New Method of Alkali Regeneration from Black Liquor

THIS is the title of a paper which was read before a meeting of German Paper and Pulp Chemists and Engineers by Dr. Haegglund. Dr. Haegglund discussed in his paper the importance of the problem of recovering alkali from black

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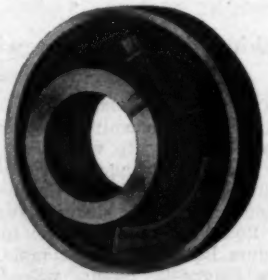

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liquor, and also reviewed the work that has been done on this subject by Higgin and Rinman. He mentioned that this work, while important, possessed the disadvantage of being uneconomical from a thermal standpoint, and also of necessitating the installation of considerable and expensive apparatus. He then discussed the work which he did himself on the pressure heating of the black liquor.

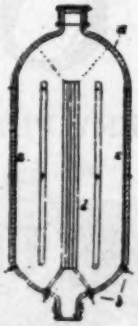
When black liquor is heated under high pressure and in the presence of definite proportions of alkali, it is possible to separate considerable quantities of tar and carbonaceous matters from the liquor. The tar that is obtained in this manner is liquid at a temperature of 100 degrees C, and can be easily separated from the liquid. This tar possesses considerable heating value. This process on the other hand also enables the recovery of considerable quantities of methyl alcohol and acetic acid. The yield of methyl alcohol amounted to approximately thirteen kilograms per ton of wood, and is greatest at a decomposition temperature of 350 degrees C. Furthermore, this yield is dependent on the alkalinity of the black liquor, and it is possible that a part of the methyl alcohol is oxidized to form formic acid, mostly decomposed into gaseous products.

The output of acetic acid is independent of the temperature and the alkalinity, and amounts to from six to seven per cent on the weight of the wood, while the amount of formic acid formed is about 1.7 per cent, figured on the weight of the original wood.

It was pointed out that the process could be operated in a continuous manner, and that it is surrounded with no serious technical difficulties.

Electric Heating of Digesters

PAPER mills are often situated in places where it is difficult to get coal, but where there is plenty of water power. In such instances the use of electricity for the purpose of heating the pulp digesters is of some interest. There are certain advantages which apply to the electrically heated digester, which has been patented several times in various countries.



The illustration which accompanies this abstract shows an electrically heated digester, which is patented in German Patent, No. 415,061.

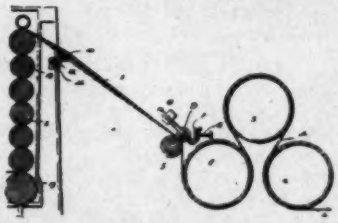
Experiments have shown that the heating of a digester, and in fact the entire digestion process, can be carried out much more simply and with greater efficiency when the heat required for digestion is developed right within the digester itself with the aid of the electric current. This is accomplished by passing an electric current through the wood and the required digestion liquor, this current passing into the liquor and leaving the same through two or more electrodes which are arranged within the digester. When alternating or multi-phase current is employed, no electrolysis ensues, and the electrodes are not attacked by the liquor.

In the figure (c) represents current conductors, which are made of strips of copper bus-bars, and which are arranged along the length of the digester. These conductors are insulated from the walls of the digesters by suitable insulators (b) and lead the current into the apparatus. In the middle of the digesters and arranged parallel to its axis there are a number of strips of copper (d), to which the current is also fed in the same manner. By the use of a three phase multi-phase current the poles (c^1), (c^3), (c^5) in phase (1), the poles (c^2), (c^4), (c^6) in phase (2) and the pole group (d) in phase (3) are arranged as shown in diagram.

In this manner uniform heating of the contents of the digester is attained, as the current path between the different poles is approximately the same magnitude in all cases. The elongation of the poles in the direction of the length of the digester makes this distribution of the heating effect independent of the position of the digestion liquor at any time. By switching in the multiphase current, whose voltage depends on the dimensions of the digester, joule heat is produced in the digestion liquor which as an electrical resistance. The regulation of the heating can be very easily effected by variation in the intensity of the current and the voltage.

Paper Making Process

THE illustration shows an apparatus which is employed in the manufacture of paper by a process described in United States Patent, No. 1,545,634. The process consists in the production of strips of paper which possess thin edges from a web which has thin zones extending longitudinally throughout the same. Then the paper is dried in the arrangement seen to the right of the figure, thereafter slit along the thin zones and finally calendered in the apparatus shown at the left.



Feeding Mechanical Wood Grinders

AS MAY be seen in Figure 1, the arrangement which is employed in this apparatus, German Patent, No. 411,302, for moving the mass of wood, consists of two large toothed wheels which are located directly opposite one another. These wheels are shown at (A) and (A'). The toothed wheels are allowed to engage with the wood through the feed chamber (B), which are shown at (b^3), (b^4). The result is that the wood in the feed chamber is caused to move downwards and also to press against the surface of the stone with a certain pressure that is controlled by the rate at which the toothed wheels (A) and (A') are made to move. The stone is seen at (D). A spring device (E) is employed for controlling the degree of pressure that the rolls (A') exert against the wood in the feed chamber.

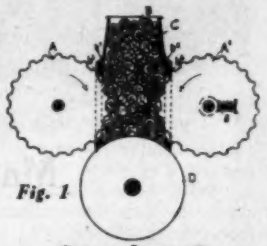


Fig. 1

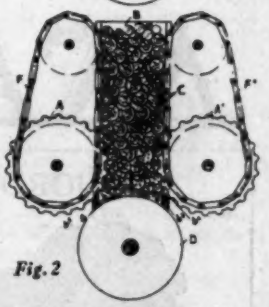
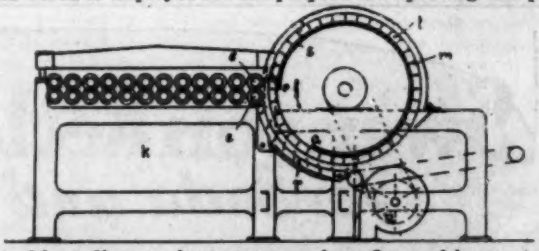


Fig. 2

In Figure 2, there is shown another arrangement in which the feed rolls (A) and (A') are connected with driving chains (F) and (F') to two other rolls. In this case the chains form the sides of the feed chamber and the movement of the wood is facilitated by this arrangement. It is stated that in these two cases the requisite pressure of the wood against the surface of the stone is acquired by the means described and it is not necessary to use any special pressure creating devices for this purpose.

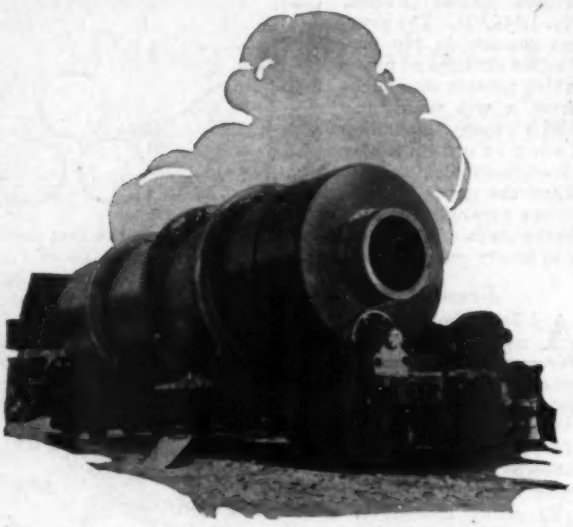
Centrifugal Separator

IN THE illustration there is shown a centrifugal separating device which is patented in German Patent, No. 411,653, and which is employed for the purpose of improving the quality of bast fibers or bast straw, such as flax and hemp straw so as to manufacture from them an improved quality of paper.



The apparatus consists of a suction drum (s) which is located within a rotating drum (t). The suction drum is stationary and has the effect of sucking in to it the fibers that are introduced into the machine, while the waste materials are caught on the surface of the suction drum and can then be removed from them in a suitable manner.

KEEPING PRODUCTION UP



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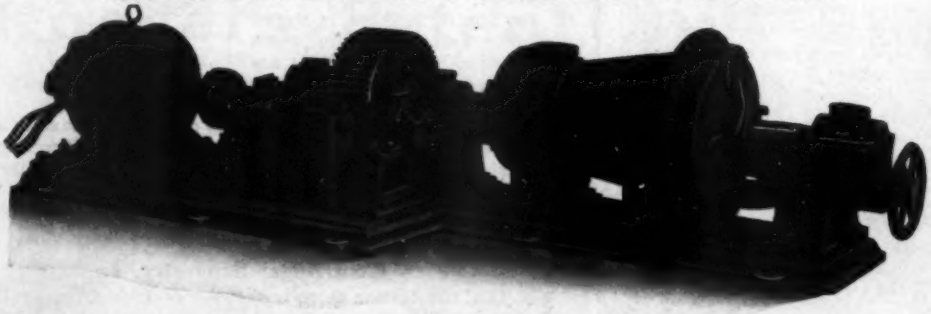

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Paper from Sawdust

UP TO the present time the wood waste, more particularly the sawdust and small pieces of cut wood that are obtained in various factories in which different articles are fashioned from wood, have not been used very much for the manufacture of wood pulp. Little interest has been expressed in this raw material, and it has mostly been used as a fuel under the boiler. However, the increasing demand for wood in the paper industry, and the high prices that pulp wood is bringing these days, have turned the attention of paper men to this source of wood supply.

The wood waste is worked up in machines that cut it into chips, which can then be employed in the digesters. It is also customary to have the wood chips pass through a screening device. It is mentioned that in a certain pulp mill upwards to six hundred thousand kilograms of this wood waste are manufactured into wood pulp each month. The digestion is accomplished in rotary digesters, which have an output of 3,200 kilograms of air dry pulp. The strength of the digestion liquor is from 5 to 5.4 per cent total sulphur dioxide, and the total time of digestion is 5.75 hours. Wochenblatt fuer Papierfabrikation, 1925, 819.

Determination of Alpha Cellulose

AN INVESTIGATION to determine the reliability of various methods that are employed for analyzing the alpha cellulose content of pulp was the subject of a paper presented to a recent meeting of the German Paper and Pulp Chemists and Engineers by Dr. C. G. Schwalbe. Three different methods were employed for this purpose, one of which is known as the Jentgen method, another the Waentig method and the third the method of the commission. The results indicated that the error incurred was least in the Jentgen method.

Drying Paper Samples for Determining Dry Pulp Content

AT a recent meeting of the German Paper and Pulp Chemists and Engineers Dr. P. Klemm described two experiments made with the purpose of determining the best conditions under which the drying process should be carried out in order to obtain an accurate idea of the proportion of dry substance in paper samples.

In the first place, it must be mentioned that the drying process is most advantageously and most easily carried out in drying apparatus that are provided with a water jacket. This sort of apparatus affords easiest and most accurate temperature regulation at 100 degrees C. However, it must be mentioned as well that experience has shown that no bad results will ensue even if the drying is accomplished at temperatures in excess of 100 degrees C, say in the neighborhood of 105 degrees C. When the drying is effected at this temperature the rapidity of the process is materially increased.

Effect of Water on Paper Fiber

THE function of the water in the manufacture of paper is not merely mechanical as a suspension medium, but also physico-chemical as a swelling agent. The operation of beating effects the subdivision of the fibers both transversely and longitudinally, but it also assists the penetration of water into the cellulose colloid where it is retained after draining and pressing on the paper machine. Such colloidally held water is only eliminated by evaporation on the drying cylinders, and the fibers being softened by the presence of water in their substance are deprived of their resilience. Such hydrated fibers dry with considerable shrinkage to form a dense and hard sheet of paper.

Experiments were carried out with unbeaten half stuff and fully beaten pulp of the same composition. Known weights of these pulps were drained and compressed in a cylinder with gradual pressure up to seventy kilograms per square centimeter. The cakes were weighted, dried and measured, the measured volumes being compared with the calculated volumes. In the case of the half stuffs the fibers being stiff and resilient, the measured volumes were greater than the calculated, showing an expansion after release of the pressure. In the case of the beaten pulps the measured volumes were smaller than the calculated, and it appears that the cellulose had become so plastic that a contraction had occurred under pressure, and the density of the paper had increased from 1.5 to 1.6. The longer the duration of the pressure the smaller was the difference between the measured and calculated volumes, corresponding with the elimination of a certain quantity of the colloidal hydration water under the prolonged action of the pressure. Der Papierfabrikant, 1925, pages 41-2.

Removal of Printing Ink from Old Paper

THE essential features of the new process which is patented in German Patent, No. 415,062 are as follows:

The old paper is first made into a mass with water, and the insoluble coloring matter which is contained in the printers ink is liberated by solution of the binding agent or the color of the pigment by an emulsion of a fatty acid, as, for example, oleic acid in an aqueous solution of a fatty acid or resinic acid alkaline salt. As the latter an alkali oleate, sulpholeate, sulphoricinate, resinates and sulpho resinate may be employed.

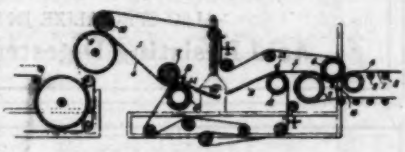
In this method the decomposed mixture of paper and water is treated in a washing drum, whereby the liberated coloring matter in the ink is separated from the fiber particles.

During the last named step in the process the coloring matter is precipitated by the revolution of the washing drum in the same degree as the mash settles on the walls of the drum and falls back into the water. The coloring matter is lighter than water and therefore rises to the surface of the water in the drum. The water is removed through an opening within the drum.

Paper Making Machine

THE apparatus which is seen in the accompanying illustration is employed in the manufacture of paper by a process which is described in United States Patent, No. 1,549,338.

In this process a paper web is formed upon a member which possesses relatively large openings. An air blast is directed through these openings and against the surface of the paper web which aids in the elimination of moisture from the latter. At the same time a supporting surface is maintained in engagement with the side of the web which is opposite to that side with which the forming wire is in contact. This has the effect of preventing the blast of air from imparting a disengaging movement to the paper web as a whole. After the paper has been properly formed, it is removed from the wire in the usual manner.



Determination of Resin and Fat in Wood Pulp

ONE to two grams of the pulp and 150 cubic centimeters of the solvent are shaken together in a closed phosphorbronze vessel which is electrically heated to a temperature a few degrees above the boiling point of the solvent, glass beads and metal fragments being added to assist disintegration. A tap is provided in the lid and through this the solvent is replaced at least every two hours, the extraction continuing for a period of seven hours. The residue which remains after the distillation of the solvent is dried at a temperature which varies between 80 and 85 degrees C and is then weighed in a closed vessel. By this method, when either alcohol and benzene or ether are used, considerably larger quantities, up to twice to three times as much, of the extract are obtained than by previous methods and the extracts contain less of substances other than resin and fat. Der Papierfabrikant, 1925, pages 246-7.

Action of Sulphurous Acid on Lignocellulose

THE action of sulphurous acid on the wood has been studied from many angles, and in this abstract there is given a short account of experiments which were carried out to determine the effect of the addition of ammonia to the digestion liquor. The original article is to be found in the Journal of the Society of Chemical Industry, 1925, pages 267-270.

It has been found that when ammonia is added to the digestion liquor, while the main characteristics of the sulphurous acid digestion process are retained, a very marked advance in the resolution of the lignocellulose is produced. With the addition of 0.25 per cent of ammonia, calculated on the digestion liquor, the resolution of the lignocellulose is complete.

The advantages of working this process on the large scale

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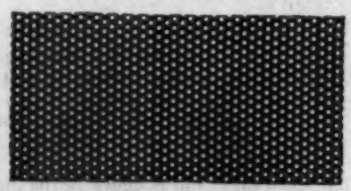
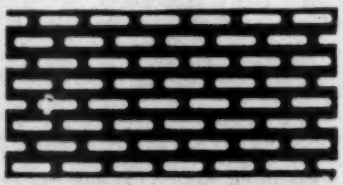
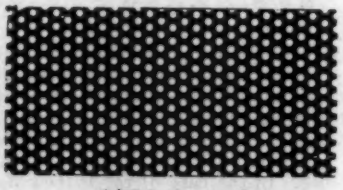
Perforated Metal Screens for Pulp and Paper Mills



.065 inch round



⅛ x ⅜" Slots



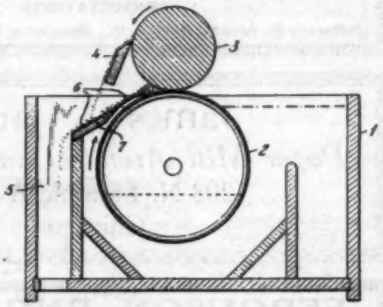
3/32 inch round

Steel, Copper, Brass, Bronze and other alloys punched for Centrifugal and Rotary Screens, Pulp Washers, Drainer Bottoms, Filter Plates, etc.
CHARLES MUNDT & SONS **57-65 Fairmount Avenue, Jersey City, N. J.**

are dealt with. As regards the by-product, one particular advantage is the absence of the salts which have to be removed from the ordinary bisulphite liquors before they can be put to industrial use. In the "bisulphite" process, it appears that the action of the bases is not in any sense to determine the sulphonation reaction, as has been assumed. The process as worked by standard methods represents a compromise adopted rather from the point of view of the chemical engineer to simplify working. On the other hand, sulphurous acid is established as the effective agent per se, and the addition of ammonia in small proportion works to the fullest advantage both with regard to the pulp manufactured and the by-product recovered.

Pulp Thickener

THE pulp thickener which is shown in the accompanying illustration, patented in United States Patent, No. 1,550,293, comprises a screen cylinder (2) which is designed to rotate in a partially submerged condition in a vat of paper stock. The vat is seen at (1). A couch roll (3) is mounted above the screen cylinder and is designed to remove the thickened pulp from the cylinder. An inclined plate (4) is employed for removing the layer of pulp which is fixed to the surface of the couch roll. Another inclined plate is seen at (6), and the material that is removed by these doctors falls into the stock chest (5).



Utilization of Waste Liquors

FRENCH Patent, No. 573,480 is concerned with a process for the recovery and reworking of waste liquors. The liquor which is decanted in the presence of carbon dioxide gas is then treated with lime at a temperature which is lower than the boiling point of the liquor when exposed to the free air. After the liquor has been decanted a second time, it is ready for use in the digestion process after its alkali content has been increased by the addition of soda. The insoluble lime salts that are obtained in this regeneration process may be employed for the manufacture of quicklime by calcination, or they may be employed in the manufacture of fertilizing compositions. The liquor itself does not have to be concentrated or calcined.

Sulphite Pulp from Resinous Wood

THE process, which is described in French Patent, No. 574,251, is applied to a wood which contains resinous ingredients and permits the recovery of rosin and turpentine besides giving a sulphite pulp.

Before or during the digestion of the wood, the chips are treated with organic solvents which dissolve rosin, such as benzine, turpentine, and the like. These solvents, which are emulsified in water or in acid solutions, which are employed in digestion of the wood circulate in the digester from the bottom upward, this circulation being accomplished with the aid of steam injector.

Recovery of Alkali Waste Liquor

BRITISH Patent, No. 217,235 is concerned with a process for the dry distillation of alkalized waste liquor from the manufacture of soda cellulose. The original process which is described by Rinman in British Patent, No. 120,724, is modified in that distillation is stopped at a temperature of about 400 degrees C as soon as the most valuable products, such as acetone, methyl ethyl ketone and methyl alcohol, have been recovered. The retort is then cooled with the aid of sprays of water or diluted condensate from a previous cooling operation, and the residue is either granulated to pieces of about three millimeters in size and burnt in a rotary furnace at a temperature of 750 degrees, in which case approximately 75 per cent of the lime becomes causticized. or pulverized and burnt at a temperature of 1,000 to 1,200 degrees C with the aid of preheated air, in which case the whole of the lime becomes causticized. The gases of combustion may be employed for generating steam, preheating air, and if free from sulphur, for drying and preheating to a temperature of 300 degrees C the lime sludge which results from the preparation of fresh lye.

Treatment of Sulphite Waste Liquor

THE constituents of sulphite cellulose waste liquor are recovered by mixing the liquor with various salts as per German Patent No. 224,509 by Dr. Schwalbe.

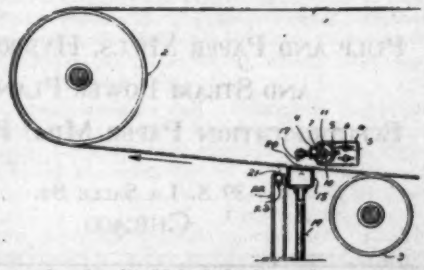
The process consists in mixing the liquor with such salts as magnesium chloride, calcium chloride and sodium chloride and then heating the mixture to temperatures which vary between 150 to 200 degrees C. The pressure used varies between five to eight atmospheres, but is only used if necessary. Acetic acid, methyl alcohol and sulphur dioxide are recovered, the yield of the last being increased by the addition of mineral acids to the mixture. The carbon resulting from the process is rendered filterable by the addition of wood waste, shavings, sawdust, bark, etc. to the initial mixture, and may be dried and consumd under the boilers of the pulp factory. The solution of salts may be returned to the process.

Rosin Sizing with Hard Water

COAGULATION of size by hard water cannot be overcome by increasing the concentration of the size, for that renders the sol still more unstable. Whether alum should be added before or after the size depends on the exact composition of the hard water. Its addition reduces the concentration of either calcium or magnesium ions by repressing the dissociation of the sulphates, and calcium sulphate may be precipitated. On the other hand, the prevalent aluminum ion has a powerful coagulating action. In a beater, however, the alum is hydrolized to colloidal aluminum hydroxide, and if sufficient time is allowed, the aluminum may be removed from the solution before the size is added. The concentration of calcium or magnesium ions may also be reduced by the addition of sodium or potassium sulphate. If the hardness is due to magnesium salts, careful addition of alkali is useful. For further details see the original article in Der Papierfabrikant, 1925, special number, pages 129-135.

Cleaning Paper Machine Wires

THE illustration shows a device for cleaning paper machine wires. The wire belt is seen at (1). In the paper machine, there is also located a steam header which is provided with a delivery aperture, this being fixed above the wire belt as seen in the figure. A water pipe is also fixed close to the steam header for the purpose of directing a stream of water against the belt. The steam header itself is held in such a manner that it can be moved back and forth across the width of the wire belt. United States Patent No. 1,550,304.



Paper Speed Regulator

A new speed regulator for single-motor paper machine drive, designed and marketed by the General Electric Company, is now in successful operation in a number of eastern mills. This regulator was designed with the object of eliminating variations in the speed of the back line shaft.

The regulator consists primarily of a small pilot generator driven directly from the back line shaft of the paper machine in such a way that its speed is always directly proportional to the speed of the back line shaft. This pilot generator is so designed that any variation in its speed will cause a wide variation in the voltage across its terminals and this variation of terminal voltage operates to change the field strength of the main driving motor, thus insuring constant speed of the back line shaft driven by that motor.

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MILL CONSTRUCTION CONSTRUCTION

New York, September 1, 1925.

THE paper market, viewed from practically every angle, is healthier today than it is usually at the close of summer. There is a firm undertone prevailing, prices on nearly every class of paper are marked by greater steadiness than ordinarily is the case at this season, very little recession in prices has occurred during the warm weather months, and probably never before was sentiment so generally confident regarding the future. There seems every indication that paper manufacturers and merchants are going to enjoy a lively market during the approaching fall and winter. In fact, it can be said improvement has already set in to some extent in certain branches of the trade. Consumers—and notably the large users of paper who buy chiefly on contract—apparently sense the bullish aspect of the situation, and are placing orders with greater freedom than has characterized their market operations in a lengthy spell. This improvement is expected to gain momentum as the autumn progresses and as general business gets back into its normal swing following the summer lapse, and it is believed it will spread to all parts of the paper market and result in a big movement of every class of paper into consuming channels.

Almost everyone who is in a postion to speak authoritatively asserts that this country is on the threshold of a period of excellent business activity. Various factors are mentioned as indicating what is in store for the American manufacturer and merchant, including banking statistics, securities values, low stocks of merchandise, cautious manufacturing operations for some time past, and conditions abroad. Business in our own country is good and fundamentally sound, with a degree of confidence being restored in the buying public which it is maintained must lead to a larger buying movement of all kinds of merchandise. The foreign situation generally is improved, vastly so, and a big demand from export sources is anticipated for American products. Obviously, the paper industry is promised a full share in this growth in commercial activity during the next few months, particularly can paper manufacturers and merchants expect good business in their line if general business expands, because activity in the paper market is created by the situation in so many and varied branches of industrial and commerical endeavor.

Late reports from mill centers are highly encouraging. It is stated that demand for some classes of paper and board has broadened so appreciably in recent weeks that manufacturers have been obliged to speed up production, and in certain instances mills are reported operating at close to maximum capacity. Contract business in paper has increased especially. This would infer that consumers sense the bullish probabilities in the market and are seeking to cover a part of their future requirements prior to any advance in prices. The mere fact that paper prices have ruled steady to firm during the summer in the face of limited buying and a scramble for orders in most branches of the trade is viewed as forecasting higher market levels later in the year. Moreover, buyers have an eye on the strong situation in papermaking raw materials and realize fully that it is more than likely this one factor alone is ample to run prices of the finished product upward any day now that demand for paper and board is assuming wider seasonal dimensions.

There was a slight decline in paper production in the United States in July compared with the preceding month, according to the monthly statistical summary of the industry compiled by the American Paper and Pulp Association and affiliated organizations. July output totaled 458,263 net tons of paper of all kinds, contrasted with 467,763 tons produced in June, representing a drop of approximately one per cent. Mill stocks of paper at the end of July were about on a par with those at the close of June, amounting to a total of 258,754 net tons, against 258,577 tons at the end of June. Shipments from mills during July aggregated 455,774 net tons, against 454,638 tons in June.

Production of newsprint in the United States during July, according to the News Print Service Bureau, amounted to 121,113 tons and shipments to 119,149 tons. Production in Canada was 121,664 tons and shipments 122,305 tons, making a total United States and Canadian output of 242,777 tons and shipments of 241,454 tons. Comparing production during the first seven months of 1925 with the same period of each of the five previous years, the U. S. mills made two per cent more than in 1924, about the same as in 1923, five per cent more than in 1922, 24 per cent more than in 1921, and one per cent more than in 1920. The Canadian mills produced nine per cent more than in 1924, 19 per cent more than in 1923, 44 per cent more than in 1922, 97 per cent more than in 1921, and 69 per cent more than in 1920. Stocks of newsprint at U. S. mills at the end of July totaled 34,079 tons, and at Canadian mills 23,258 tons, making a combined total of 57,337 tons, which was equivalent to 5.3 days' average production. During July the U. S. mills operated at 83.8 per cent of capacity and the Canadian mills at 90.4 per cent.

Numerous signs are evident that consumption of print paper is holding up to a comparatively high level. Publishers are conducting compaigns to increase newspaper circulation, particularly in the metropolitan territory where competition for circulation is very keen, and advertising is a volume which helps to sustain newsprint consumption because publishers are obliged to print rather large issues to carry their display advertisements. The price tone is steady and throughout the trade there is little expectation of any change in the quotational basis for the remainder of the year.

Book paper is in much better demand. Manufacturers report that the so-called "floating" demand continues relatively quiet but that contract buyers are absorbing supplies in large amounts, this being especially true as concerns publishers of popular magazines. The tendency in book paper prices is upward, and seldom do instances of where mills have granted concessions come to light.

Coarse papers are in broader call. Merchants in various parts of the country are purchasing wrapping paper in bigger lots, and the market for kraft wrapping has firmed to a pronounced degree under the stimulant of a larger movement of supplies into consuming channels. Tissue also is firm and in growing demand.

Fine papers are enjoying moderate market activity. The call for supplies is steady although most orders are for rather small quantities. Prices are maintained and the tendency is upward, due in no small part to the high cost of rags and other raw materials.

Box boards have been in more demand during the last month than in a long space of time. Distributors in numerous cases tell of handling a greater tonnage of board in a single month than in the three previous months combined. Prices have stiffened and consumers are buying with apparent freedom, evidently being in need of supplies and expecting firm prices. Plain chip is quoted in the East at around $42.50 to $45 a ton delivered New York and filled news board at $47.50 to $50 New York.

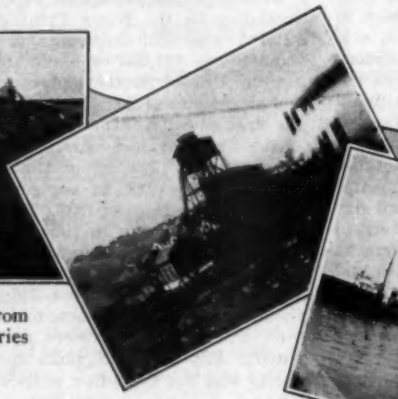
The United Paperboard Co., Inc., with principal offices at 171 Madison avenue, New York, and mills situated in various parts of the country, reports for the year ended May 31 last a net income of $241,835, equivalent after preferred dividends to $1.35 a share on the $12,000,000 common stock. This compares with $123,420, or 43 cents a share in the preceding year.

Did you take the trip with us?

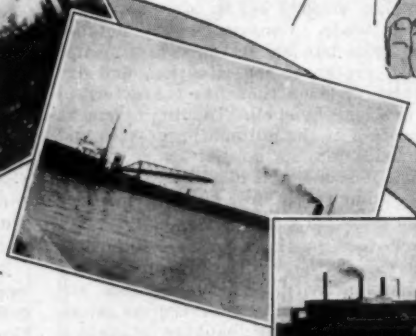
SEVERAL weeks ago we invited you to take a trip with us—in this publication—over the lands of the Wyandot and through the great Michigan Alkali institution. It has been an interesting trip. Here are the points it touched.

[*We have prepared a series of reprints for those who have not followed the story in this publication. Just write us.*]

1. The limestone comes from Michigan-owned quarries at Alpena.

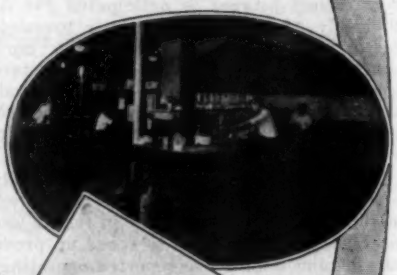


2. The coal comes from Michigan-owned mines in Pennsylvania.



3. And Michigan-owned steamers bring the raw materials to the two great alkali works and their salt wells at Wyandotte.

Can any other manufacturer of alkali match this "independence of outside influences"?



4. Michigan's chemists test every shipment of "Wyandotte Brand."

5. It comes to you in barrels made in Michigan's own cooper shop.

6. —And it bears the "Wyandotte" trade-mark as your protection.

"Distinguished for its high test and uniform quality."

Michigan Alkali Company

Manufacturers of "Wyandotte Brand"

General Sales Dept. **21 East 40th St., New York City**

Works, Wyandotte, Mich.

Soda Ash **Caustic Soda**
Bicarbonate of Soda

Domestic Raw Materials

Papermaking Rags

The situation in papermaking rags is not very active at the moment. The market quieted very perceptibly during the latter part of August, which is somewhat of a seasonal condition as most paper mills hold off in buying just prior to Labor Day insofar as their needs will permit. Moreover, demand earlier last month reached considerable proportions for a time and it is likely many consumers absorbed sufficient supply to last them a while and thus enable them to retire as purchasers temporarily.

Fundamentally, the situation displays much strength. It seems rather significant that No. 2 roofing stock—about the lowest class of papermaking rags—has not sold in the American market below a basis of 2 cents a pound this year; this is something to which dealers point to as indicative of the real strength of the market and the bullish statistical position of rags. Furthermore, it is the contention of dealers and importers that roofing rags are not likely to drop below the 2-cent level during the remainder of the year although within the last several weeks prices have eased gradually until they are now close to this mark.

One of the most important factors in the situation is that domestic collections of rags this year have been small, unusually so. Dealers with rare exceptions declare they have not received anything like normal amounts of rags from country sources all over the United States, which condition is blamed on the fact that so many rags are used these days for the family automobile and also to the fact that the style decree has eliminated so many garments, especially such raiment as women's cotton petticoats, dresses and shirtwaists, that the production of rags has fallen off appreciably. However, offsetting this situation in the domestic market are record-breaking imports of rags from Europe and numerous other parts of the world. Were it not for the very large arrivals of rags from foreign sources, there is no telling where rag price levels would now be; the probabilities are they would be resting at unheard of heights because it cannot be denied consumption in the U. S. this year has been heavy, particularly of the low grades for roofing paper manufacture.

Indications are there are plenty of rags at present available to serve the needs of paper mills. A good percentage of recent imports has been put in store, and reports state that dealers have considerable quantities in warehouse awaiting a market. At the same time, any marked increase in consumption over the next few months might lead to a sharp advance in prices. The supply condition in all classes of papermaking rags is such that it would require only a little expansion of buying to send values skyward; dealers are bullish in their views, and it is an established fact that it is becoming more difficult to get sizeable supplies in Europe excepting, of course, at high enough prices to bring the stock out. There has been a constant drain on foreign supplies for some months and it stands to reason stocks in some countries abroad must be near exhaustion and that it will take time for collectors to accumulate additional supplies.

Probably the feature in the market recently has been the sagging of prices of roofing rags during the closing days of August. This class of rags worked upward in value until quite a volume of sales was reported to mills at a basis of 2.65 cents a pound f.o.b. New York for No. 1 roofing and 2.50 cents for No. 2 packing. When some of the leading consumers dropped out of the market, however, prices tumbled and the level now is around 2.35 cents for No. 1 roofing stock and 2.20 cents for No. 2 quality. Foreign dark cottons sold up to 2.50 cents ex dock New York in August but now are down to about 2.25 cents per pound.

Old white rags are holding fairly steady in price under a consistent but limited call from paper mills. Dealers quote 7.50 cents upward on No. 1 repacked whites at shipping points, and 5 to 5.50 cents on No. 2 repacked whites. Thirds and blues are in slow demand and are quoted at 3.75 to 4 cents per pound f.o.b. dealers' points for repacked, and around 2.65 cents for rough packing.

Dealers report a low production of new cuttings, especially a few grades which have been sought fairly freely by paper mills. Prices of most cuttings are maintained though it is probable buyers are securing some concessions in certain cases. No. 1 white shirt cuttings are quoted at 14.50 cents a pound at dealers' shipping points, unbleached muslins at 15 cents, light silesias at 11 cents, blue overall cuttings at 11.75 cents, fancy shirt cuttings at 9.50 cents, and washables at 7.50 cents.

Aside from roofing mill grades, little activity is noted in foreign rags. The better qualities are moving only in a spotty way and in small quantities. Importers name steady prices, however, based on firm prices prevailing at primary sources.

Average quotations f.o.b. shipping points and ex dock New York are as follows:

New Stock—	New York and Chicago
White shirt cuttings, No. 1	14.00-14.50
White shirt cuttings, No. 2	10.25-10.75
Fancy shirt cuttings	9.25- 9.50
Washables, No. 1	7.25- 7.50
Unbleached muslins	14.50-15.00
White lawns	13.50-14.00
Overall cuttings, blue	11.50-11.75
Black silesias	6.50- 6.75
Light flannelettes	12.50-13.00
Canton flannels, bleached	13.50-14.00
Canton flannels, unbleached	13.25-13.50
Shoe cuttings, bleached	13.00-13.50
Shoe cuttings, unbleached	12.00-12.50
Light silesias	11.00-11.25
O. D. khaki cuttings	7.00- 7.25
Mixed khaki cuttings	6.25- 6.50
Corduroy cuttings	6.00- 6.25
Cottonade cuttings	5.25- 5.50
Linens, No. 1 white, foreign	16.00-17.00
Light prints, foreign	7.75- 8.00
Old Stock—	
Whites, No. 1, repacked	7.50- 8.50
Whites, No. 2, repacked	5.00- 5.50
Whites, house soiled	3.50- 3.75
Whites, street soiled	3.00- 3.25
Lace curtains	6.50- 7.00
Thirds and blues, rough	2.60- 2.80
Thirds and blues, repacked	3.75- 4.00
Black stockings	4.50- 4.75
Cotton canvas, No. 1	5.75- 6.25
White cotton batting	3.75- 4.00
Roofing, No. 1	2.30- 2.40
Roofing, No. 2	2.15- 2.25
Dark colored cottons, foreign	2.20- 2.30
Blue linens, foreign	5.50- 6.00
Gray linens, foreign	6.00- 6.50
White linens, foreign	10.50-11.00
Light prints, extra, foreign	3.75- 4.00

Rope and Bagging

Paper manufacturers are buying domestic old rope in a consistent manner and paying steady prices. On the other hand, there is very little attention given to foreign old rope. The reason for this is said to be that the imported material

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GATTI Paper Stock Corporation

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received recently is poor in quality, with the result consumers are concentrating their purchasing on the domestic article and are succeeding in getting enough of same to enable them to refrain from buying foreign old rope. Domestic No. 1 old manila rope is bringing 6.75 to 7 cents per pound f.o.b. dealers' shipping points, and it is not unlikely that even better than 7 cents is paid in exceptional instances. Foreign old rope elicits bids from mills of only about 5.75 cents a pound ex dock New York. Strings of all kinds are in fair demand, and steady quotably.

Bagging has quieted but there appears to be an actual shortage of this commodity and prices hold steady to firm. Dealers report sales of No. 1 scrap bagging to paper mills at 2.50 cents a pound and higher at shipping points, and of roofing bagging at 1.85 to 2 cents.

F.o.b. shipping point and ex dock New York quotations follow:

	New York and Chicago
Gunny, No. 1 domestic	3.00-3.25
Gunny, No. 1 foreign	2.90-3.15
Scrap bagging, No. 1	2.50-2.75
Roofing bagging	1.85-2.00
Wool tares, heavy	2.75-3.00
Wool tares, light	2.65-2.85
Manila rope, No. 1 foreign	5.75-6.00
Manila rope, No. 1 domestic	6.75-7.00
Sisal strings	3.00-3.25
Mixed strings	1.75-2.00

Old Paper

Old paper is enjoying fair market activity and is displaying greater price firmness than has been the case probably at any time thus far this year. Consumers are buying cautiously yet they are absorbing supplies in much larger tonnage and seem more willing to meet the prices asked, indicating they are in greater need of supplies. Demand from box board mills particularly has been good and has been possibly the principal factor in carrying market values to higher levels.

It is asserted by dealers that available supplies of most kinds of old paper are low. Unprofitable market prices prevailed so long, it is stated, that a good many collectors and packers went out of business while nearly all the others greatly reduced their production. The recent advanced prices have stimulated collections to some extent but it is contended supplies still are limited, and many in the trade look for much higher prices later in the year when consuming demand reaches more seasonal dimensions.

Shavings are quoted at 3.50 to 3.75 cents per pound f.o.b. shipping points for No. 1 hard white, and 2.75 to 3 cents for No. 1 soft white shavings. Ledger stock is fetching from 1.40 up to 1.75 cents a pound, depending on the quality of packing, while old kraft paper has advanced sharply to where dealers now demand 2.20 to 2.35 cents a pound at shipping points. Old magazines are selling at 1.15 to 1.30 cents a pound, folded newspapers at 75 to 85 cents a hundred pounds, No. 1 mixed paper at 60 to 70 cents, and common mixed at 35 to 40 cents.

The following are prices f.o.b. shipping points:

	New York and Chicago
Hard white shavings, No. 1	3.50-3.75
Hard white shavings, No. 2	3.00-3.25
Soft white shavings	2.75-3.00
Colored shavings	1.15-1.30
Heavy book, No. 1	1.15-1.30
Crumpled book, No. 1	.85- .95
Ledger stock	1.40-1.75
Kraft, No. 1	2.20-2.35
Manilas, No. 1	.75- .90
White blank news	1.90-2.00
Over-issue news, No. 1	.85- .95
Folded news	.75- .85
Sulphite mill wrappings	.75- .85
Mixed paper, No. 1	.60- .70
Common paper	.35- .40

Pulp Wood

Reports tell of a rather quiet market for pulp wood but there are signs of demand quickening in some districts. Quo-

Diamine, Alizarine, Indanthrene, Helindon, Hydron

and other

Colors

of Domestic and Foreign Manufacture

Sole Importers of
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Farwerke, vormals Meister, Lucius & Brüning,
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MAXIMUM STEAM ECONOMY

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SODA and SULPHATE PROCESSES

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tations are firm at $17.50 to $19 cord f.o.b. up-State New York points for 4-foot peeled wood, and about $22 per cord for 2-foot rossed wood. It is stated that some sample shipments of pulp wood have been brought into the United States from Scandinavia, and that negotiations are in progress for the purchase by manufacturers of some sizeable lots from this source. The Ontario Government has increased the dues on pulp wood cut from Crown lands to $1.40 per cord on spruce wood from 80 cents, and to 70 cents from 40 cents on balsam. The rate on other varieties of pulp wood remains the same as formerly, 40 cents a cord.

Mechanical Pulp

This has been a favorable summer season thus far for pulp grinders. In almost every section of the country where ground wood is manufactured, producers have had plenty of water for some time, and, following a little difficulty from low mill streams early in the summer, have been enabled to grind at a maximum rate. As a result some surplus of supply has been accumulated. However, so far as is evident, no one is pressing sales; grinders are holding stocks firmly and seem well satisfied to wait out the market in expectation of a broader open market demand later, and to conserve supplies against their own requirements. It is possible some purchases are being made at slightly under recognized asking prices but this constitutes about the only easiness in the market. Consumption is holding up well and has been on a rather high level all summer.

Domestic grinders quote around $30 a ton at pulp mills for prime spruce ground wood, while Canadian mills are reported quoting $27 to $28 a ton at shipping points though quotations range up to $32, depending on the air dry test and the freight to consuming centers. Imported ground wood of Scandinavian origin is quoted at relatively high prices compared with domestic and Canadian pulp, about $34 a ton ex dock New York or other American Atlantic ports being asked.

Chemical Pulp

Chemical wood pulps are selling freely and at firm prices. In fact, the tendency of values is strongly upward and there are indications that if prevailing conditions continue some new high market levels are likely to be established a little later in the year. Mills in general are well supplied with orders, it is reported, and are shipping out their product about as rapidly as it is manufactured; most of them are very nearly sold up for the balance of the year, and are booking additional business cautiously. As an instance of the activity in the market, it is stated that one of the largest domestic pulp mills in July experienced the busiest month it has enjoyed since the war period and sold more pulp in that month than in any similar time in its history.

Obviously, with foreign pulps high in price and now available in limited tonnage, domestic manufacturers are securing more business. Consumers are looking to home producers to fill a larger part of their requirements and are not hesitating to buy in unusually good volume. Leading manufacturers of bleached sulphite are quoting from 3.87½ to 4.25 cents a pound f.o.b. pulp mills for such pulp, depending on the grade. News grade sulphite is bringing around 2.70 cents a pound at pulp mills, and easy bleaching sulphite about 3 cents. Bleached soda pulp is quoted at an equivalent of approximately 3.50 cents f.o.b. shipping points, while No. 1 domestic kraft is fetching 3 cents and higher.

F.o.b. pulp mill quotations are as follows:

Bleached sulphite	3.87½-4.25
Easy bleaching sulphite	3.00 -3.10
Unbleached sulphite, No. 1	2.75 -3.00
News grade sulphite	2.60 -2.75
Soda pulp, bleached	3.50 -3.75
Mitscherlich, unbleached	3.25 -3.75
Kraft, No. 1	2.90 -3.15
Screenings, refined	1.40 -1.60

Chemicals

Most papermaking chemicals are in fair demand, a good movement both on contract and on spot orders being in progress. Prices are steady to firm with the tendency generally upward. Bleaching powder is firm at 1.90 to 2 cents per pound

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STANDARD IN SODA SINCE 1881

Soda Ash

Caustic Soda

Quality and Service Guaranteed by the largest source of supply.

Over 75 stock distributing points assure prompt shipment with minimum transportation charges.

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White rag	15-40
White sulphite	11-30
Colored rag	15-40
Colored sulphite	10-30
Ledger—	
White rag	17-40
White sulphite	13-30
Colored sulphite	12-30
Colored rag	16-40
Bonds—	
White rag	16-40
White sulphite	9-30
Colored sulphite	9-30
Colored rag	15-40
Book—	
No. 1 S. & S. C.	6.50- 8.00
Machine finished	6.00- 8.00
English finished	6.25-8.00
Coated and enameled	8.00-14.00
Lithograph, M. F.	9.00-15.00
Newsprint—	
Rolls, contract	3.50- ....
Rolls, transient	3.65- ....
Sheets	4.00- 4.25
Side runs	3.00- 3.25
Cover Stock—	
Coated, both sides	10.25
Coated, one side	10.15
Tissue—	
No. 1 white, 20x30	.75- .85
No. 2 white 24x36	.70- .75
No. 1 manila, 24x36	.70- .75
Kraft	.90- 1.00
Wrapping—	
No. 1 Kraft	5.50- 6.25
No. 2 Kraft	4.75- 5.50
Boards—	New York and Chicago
Solid news	47.50-52.50
Straw	45.00-50.00
Plain chip	42.50-45.00
White coated chip	57.50-62.50
Manila coated chip	52.50-57.50
Binder's board	70.00-75.00

Chemicals

(Continued from page 987)

with some producers quoting a trifle above 2 cents for spot shipments. Casein is steady at 11.50 to 12.50 cents and is wanted in fairly large amounts. Demand for china clay shows signs of expansion and quotations are maintained. Soda ash is selling on a flat basis of 1.38 cents a pound at works, while caustic soda is steady at 3.10 to 3.15 cents per pound.

Average quotations f.o.b. works are as follows:

Alum, lump ammonia	3.50- 3.75
Alum, lump starch	3.75- 4.00
Blanc fixe, powder	3.75- 4.25
Bleaching powder	1.90- 2.10
Brimstone (long ton, at mine)	18.00-20.00
Casein (duty paid)	11.50-12.50
Caustic soda, spot delivery	3.10- 3.15
China clay, domestic washed	12.00-16.00
China clay, foreign	15.00-20.00
Rosin, grade E	10.00-10.15
Satin white	2.00- 2.25
Soda ash, 58 per cent light (bags)	1.38
Starch, papermakers', in bags	3.40- 3.70
Talc (ton)	16.00-18.00

Ruling on Import Duty on Marbled Paper

An important question has been decided by the Board of General Appraisers, sometimes known as the customs court, involving surface-coated papers, a case which the Import Committee of the American Paper Industry considers not only important in itself, but in its reference to cases involving coated papers which the Import Committee has been working upon.

The sample of paper in question is described in the official records of the trial as "a marbelized paper, or a paper coated in imitation of a dark green marble. It is of the kind usually observed on the outside covers of check books and on the inside of book covers. It presents a mottled effect, the design having small light spaces indiscriminately placed over the dark background."

The importers claimed the paper to be properly dutiable at but 4½ cents per pound, under the provision of the tariff act for paper with the surface wholly or partly decorated. The New York appraiser classified the paper for duty at the rate of 5 cents per pound and 15 per cent ad valorem, under the provision for paper with coated surface or surfaces.

In the decision of the Board of General Appraisers it is stated in part:

"In order to be classifiable as surface-coated paper within the meaning of Paragraph 1305 of the Act of 1922, it is not necessary to show that the whole surface is coated, or that any particular percentage of the surface is coated. It is enough that there is a substantial portion of the surface coated. Also, the provision for surface-coated paper is more specific than that for surface decorated paper, since the latter is intended to refer only to uncoated papers."

In the opinion written by General Appraiser Fischer, he adds:

"It seems unreasonable to attribute to Congress the deliberate intention to impose on, say, paper, the surface of which is covered with a plain white coating, or, for that matter, a coating of any one color, a duty of 5 cents per pound and 15 per cent ad valorem, while papers with a similar coating, only enhanced in appearance by decorations and fancy effects and patterns, are required to pay a specific duty of 4½ cents per pound only."

Higher Duty on Metal Coated Papers

An important decision on the value of metal coated papers, involving several phases of the fancy paper industry has been rendered by the General Appraiser, who passed on a recommended increase of valuation of foreign papers. After an investigation of half-fine, aluminum carton and gold carton papers, placed a higher valuation on all three papers, resulting in the assessment of a higher duty than that under which the paper was originally entered by the appraiser.

The value of the half-fine paper was increased by 5 per cent and the cost of packing; as was also the aluminum carton paper. The gold carton paper was not only given the added value of 5 per cent and packing cost, but in addition the higher quality was increased from $700 to $715 per 1,000 sheets.

Nathaniel F. Bartlett, of Hollingsworth & Vose Co., will deliver a talk on the "Personal Touch in Safety Work" at the meeting of the National Safety Council this year. Mr. Bartlett since taking charge of safety work at the two mills of this company about a year ago has reduced accidents nearly 50 per cent.

The B Co. Inc. QUALITY PULPS

"HAFSLUND BEAR"
Bleached Sulphite

"FORSHAGA"
Bleached Sulphite

"HURUM SPECIAL"
Extra Strong Kraft

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EASTERN AGENTS of Sulphite Pulp. Made by
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SELLING AGENTS
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Unbleached Sulphite 50 tons daily
Kraft Pulp 50 tons daily

Our pulp is made from Canadian Spruce
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BLEACHED SULPHITE

Made from spruce
grown in the forests
of Northern Maine.

Send for Samples.

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292 Madison Avenue NEW YORK

EXPORTS

Exports of nearly all classes of paper and board from the United States during the fiscal year ended June 30, 1925, were larger than in the preceding year, according to the Paper Division of the Department of Commerce. However, owing to the generally lower average of export prices during the past yearo, the total value of shipments was slightly less than in 1923-24, amounting to $23,533,645, compared with $24,100,-269 for the fiscal year ended June 30, 1924. This downward price trend affected some of the chief paper exports, such as book paper, surface-coated paper, writing paper, photographic paper, bags, boxes and paper board. An opposite price movement was discernible in paper base stocks, the volume of exports of which increased by 23 per cent and the value by 34 per cent in comparison with the preceding year.

Exports of news print paper steadily increased during the fiscal year, and shipments during the last quarter nearly equalled those of the last half of the preceding year and exceeding those of the preceding quarter by 45 per cent. Exports of book paper also improved during the last part of the year although not sufficiently to bring the shipments for 1924-25 up to the level of the preceding fiscal year. Approximately half of the news print and 25 per cent of the book paper exported last year went to Cuba; other leading purchasers being the South American countries, which more than trebled their purchases; Mexico, the Philippine Islands and China. Total news print exports for 1924-25 amounted to 39,046,251 pounds, valued at $1,849,599, an increase of 16 per cent in quantity and 9 per cent in value over the previous year.

Wrapping paper exports showed some improvement in comparison with 1923-24, shipments of miscellaneous wrapping papers increasing by 2,163,000 pounds or 9 per cent. Exports of writing paper registered a decline in 1924-25, the shipments for the fiscal year reaching only 3,253,500 pounds, against 5,370,000 pounds in 1923-24, and 7,187,000 pounds in 1922-23. American exporters were more successful, however, in holding their trade in boxed writing papers and in envelopes, exports of the former during the last year showing an increase of 35 per cent and of the latter a decrease of only 2 per cent in comparison with 1923-24.

Among the higher priced papers and paper specialties, the largest increases occurred in exports of paper bags, and paper boxes and cartons, which were from one-fourth to one-third greater than in the preceding year. Other important increases occurred in surface-coated paper, tissue and crepe papers.

IMPORTS

Wood Pulp

Foreign wood pulps are in a very strong market position. Statistically and otherwise the situation presents many bullish possibilities; probably not in a long time has the market been characterized by quite so much strength as at present. Many in the trade expect a sharp uptrend in prices within the next several months; at the moment prices are firm on levels which constitute a little advance over those prevailing recently, with the tendency unmistakably upward. It is felt that if paper and board manufacturers experience the excellent business in their products most everyone anticipates during the coming fall and winter and it becomes necessary for them to purchase additional supplies of imported pulps, prices will certainly move much higher because of the limited available supplies abroad and the sold-up condition of mills in Scandinavia.

Figures received lately indicate that pulp manufacturers in Sweden have only about six per cent of their entire year's production for 1925 left to dispose of during the balance of this year. The kraft pulp output of Sweden is reported sold for the year with the exception of approximately two per cent. Even should these estimates be somewhat exaggerated it can be surmised how little pulp there remains in the Scandinavian country for American consumers to draw on over the rest of this year. Moreover, it is stated that buying by U. S. papermakers for last open water shipment from Sweden in 1926 has been unusually active for this early in the season, and that subnormally small amounts remain to be absorbed for shipment during the early part of next year.

Pulp has been coming into the United States recently in heavy tonnage. Scarcely a day has passed that steamers have not arrived at New York, Boston, Philadelphia, Baltimore or other Atlantic ports carrying sizeable cargoes of pulp from European sources. Nevertheless these large arrivals have not affected the market here in the least; instead prices have shown a stiffening trend in the face of big imports. The principal reason for this, of course, is that the great bulk of supplies coming in from abroad has been on contracts; very little of the pulp reached the open market, and consequently had no influence on the supply situation. Spot stocks in this country appear exceedingly small, and selling pressure is very nearly an unknown quantity in the market at present and has been for some time.

Imports of chemical pulp into the United States in June were large, amounting to a total of 100,162 tons, according to Department of Commerce statistics, comparing with 90,681 tons imported in May. June imports brought the total for the first six months of this year up to 598,545 tons, giving a monthly average of 99,757 tons, contrasted with an average of 79,345 tons in the first six months of 1924. Ground wood imports in June were 26,963 tons, against 29,125 tons in May, and for the first half of this year totaled 138,033 tons, giving a monthly average of 23,005 tons, compared with a monthly average of 15,290 tons in the corresponding period a year ago.

Quotations on nearly every class of foreign chemical pulp tend higher. Bleached sulphite is especially strong in price, importers as a general thing quoting 4.10 cents per pound ex dock New York as about a bottom price on prime bleached, with 4.25 cents and higher asked for some mill brands. Strong unbleached sulphite is quoted around 2.90 cents on the dock at New York, and prime Swedish kraft pulp at 3 cents. The special mill brands of kraft range in price up to 3.20 cents. Easy bleaching sulphite is quoted at 3 to 3.20 cents for prime, while Scandinavian groundwood is quoted at $33 to $36 a ton ex dock New York.

Receipts at the port of New York in August and current market quotations ex dock New York follow:

Bleached sulphite, No. 1	4.00- 4.50
Unbleached sulphite, strong, No. 1	2.80- 3.00
Unbleached sulphite, No. 2	2.60- 2.80
Easy bleaching sulphite	3.00- 3.20
Mitscherlich unbleached, genuine	3.00- 3.25
Mitscherlich unbleached, ordinary	2.65- 2.80
Kraft, standard Swedish	3.00- 3.20
Groundwood, per ton	33.00-36.00

Johaneson, Wales & Sparre, 1,250 bls. from Bremen, 1,100 Swedish ports and 1,150 Sundsvall; Buck, Kaier & Co., 1,400 bls. from Bremen and 600 Copenhagen; E. M. Sergeant Co.,

The survival of the fittest

The easiest way to survive competition is to reduce the cost of production.

Our equipment will help you to do this:

Jenssen Acid Towers
Jenssen Spray Coolers
Bullard Gas Washer
Decker Cooking Process
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G. D. Jenssen Co.
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UNION SULPHUR

The Best for Better Sulphite Pulp

Guaranteed 99½ Per Cent Sulphur
Combined with 100 Per Cent Service

Substantial warehouse stocks always maintained at strategically located seaboard stations insure

Prompt Delivery Against All Orders

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The operation of a beater, with its wear and tear and tremendous power consumption, has one primary purpose, namely, hydration. Any thing that will economically bring about hydration more quickly relieves the beater just that much, cuts down on operating costs and speeds the process of paper making.

The MITTS & MERRILL SHEET & LAP STOCK SHREDDER performs on magazines, books, old paper and boxboard, frozen or dried pulp laps in such a way as to greatly reduce their resistance to hydration when they reach the beater. It gives the beater an economical lift.

Our Shredders are built in sizes with spouts ranging from 18" to 45" wide. We will be glad to quote you on any size adapted to your requirements.

We also build a 100% efficient "Hog" to reduce pulp mill bark and wood refuse

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1,095 bls. from Oslo, 1,500 Swedish ports and 508 Gothenberg; Bulkley, Dunton & Co., 2,250 bls. from Swedish ports, 1,000 Sundsvall and 1,500 Gothenburg; Pagel, Horton & Co., 4,000 bls. from Swedish ports and 600 Hernosand; Scandinavian Pulp Agency, 2,250 bls. from Swedish ports and 1,250 Sundsvall; J. Andersen & Co., 11,550 bls. from Hernosand and 4,220 Oslo; Castle & Overton, 1,920 bls. from Bremen; Ira L. Beebe & Co., 3,521 bls. from Bremen; Price & Pierce, 2,525 bls. from Gothenburg; Nilsen, Lyon & Co., 180 bls. from Kotka; Lagerloef Trading Co., 722 bls. from Kotka; M. Gottesman & Co., 2,100 bls. from Gothenburg and 4,800 Sebenico; Parsons & Whittemore, 191 bls. from Raumo; Tidewater Paper Mills Co., 11,681 bls. from Weymouth, N. S., and 29,702 Liverpool, N. S.; Chase National Bank, 1,000 bls. from Oslo; Borregaard Co., 300 bls. from Oslo; Chemical National Bank, 600 bls. from Oslo; International Acceptance Bank, 850 bls. from Rotterdam; Perkins-Goodwin Co., 1,200 bls. from Hernosand; Order, 1,750 bls. from Swedish ports, 2,345 Kotka, 160 Hamburg, 607 Raumo, 2,040 Oslo and 678 Bremen.

Paper Stock

Importations of papermaking rags into the United States have been very heavy in recent weeks, judging from arrivals through the port of New York. Rags have been received from numerous sources all over the world, but more especially from European countries. Receipts of bagging, old rope and other raw materials for paper mills have been at least normal lately.

Rag imports in June showed a big increase over the preceding month, according to Department of Commerce statistics, amounting to 43,861,737 pounds, valued at $1,125,601, compared with 33,630,833 pounds imported in May last and 32,455,652 pounds in June, 1924. During the Government's fiscal year ended last June imports of papermaking rags totaled 581,857,187 pounds, contrasted with 420,625,107 pounds imported in the preceding fiscal year. Imports of old bagging and old paper in June were 7,433,673 pounds, compared with 8,265,289 pounds in May last and 8,509,838 pounds in June last year, and for the twelve months ended with June were 117,440,533 pounds, against 101,143,437 pounds in the previous twelve months. Imports of old rope and miscellaneous paper stock in June were 6,055,389 pounds, contrasted with 6,701,454 pounds in May last and 7,678,512 pounds in June a year ago, and for the year ended June were 81,724,037 pounds, against 96,727,558 pounds in the preceding twelve months.

Imports of all kinds of papermaking stock through the port of New York in August, with names of consignees, compiled from manifests of steamers reaching that port during the month, were as follows:

Old Rope

Brown Bros. & Co., 737 coils and 517 bls.; Ellerman's Wilson Line, 171 coils and 107 bls.; International Purchasing Co., 99 coils and 84 bls.; Cohen & Co., 5 bls.; Panama Railroad Co., 44 bls.; W. Schall & Co., 40 bls.; Stone Bros. Co., 60 coils; E. J. Keller Co., 375 bls.; Order, 69 coils and 13 bls.

Old Bagging

Castle & Overton, 117 bls.; E. J. Keller Co., 1,638 bls.; S. Birkenstein & Sons, 163 bls.; Equitable Trust Co., 433 bls.; A. W. Fenton, Inc., 234 bls.; Salomon Bros. & Co., 246 bls.; W. Schall & Co., 79 bls.; Stone Bros. Co., 96 bls.; British Bank of South America, 84 bls.; Maurice O'Mearo Co., 97 bls.; New York Trust Co., 58 bls.; Anglo-South American Trust Co., 146 Bls.; G. M. Graves Co., 140 bls.; Darmstadt, Scott & Courtney, 68 bls.; Guaranty Trust Co., 153 bls.; E. Butterworth & Co., 107 bls.; Order, 674 bls.

Rags

Robert Blank, 198 bls.; Castle & Overton, 429 bls.; Stone Bros. Co., 1,513 bls.; E. J. Keller Co., 5,891 bls.; Paul Berlowitz, 305 bls.; Darmstadt, Scott & Courtney, 36 bls.; American Wool Stock Co., 404 bls.; Atlas Waste Mfg. Co., 136 bls.; Atterbury Bros., 179 bls.; Daniel I. Murphy, Inc., 120 bls.; Victor Galaup, Inc., 154 bls.; Katzenstein & Keene, 334 bls.; S. Birkenstein & Sons, 678 bls.; Scrap Material Co., 99 bls.; A. Hurst & Co., 51 bls.; D. C. Andrews & Co., 533 bls.; C. R.

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ECONOMY can never be mistaken for cheapness. In the matter of sizing material, starch is cheaper than an all-glue size, yet the results are identical—in fact, the paper made with starch sizing is stronger.

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SPECIAL PAPER

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Starch

There Is a Reason

THE steady increase in the use of Hercules Wood Rosin during 1924, and so far this year, indicates a general realization of its quality and unexcelled waterproofing properties. Write us for information.

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941 Market Street, Wilmington, Delaware
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Chicago	Louisville	Salt Lake City
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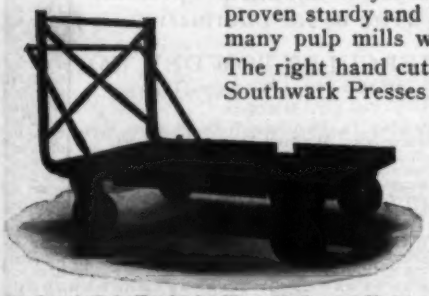
HYDRAULIC PRESSES
for Pulp, Sulphite, Baling, Etc.
HYDRAULIC PUMPS, VALVES, FITTINGS, SHOCK ABSORBERS, PULP TRUCKS, ETC.

Southwark Hydraulic Presses for dehydrating pulp have proven sturdy and efficient machines in every one of the many pulp mills where we have installed them.

The right hand cut shows an installation of four 600-ton Southwark Presses in a large pulp and paper mill. These presses are designed for use with Southwark Pulp Trucks, the trucks are loaded and run under the press, the pulp being compressed directly on the truck.

This feature gives fast operation, saves labor and eliminates curbs, boxes or other containers on the press.



Southwark Pulp Truck, for Use with Presses Shown at the Right. Saves Time and Labor

Four 600-Ton Southwark Pulp Presses, Minnesota & Ontario Paper Co., International Falls, Minn.

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PHILADELPHIA, PA.

CHICAGO
343 S. Dearborn St.

Spence & Co., 918 bls.; E. Butterworth & Co., 101 bls.; Daniel M. Hicks, Inc., 42 bls.; G. M. Graves Co., 62 bls.; Atterbury & McKelvey, 331 bls.; L. H. Abenheimer, 410 bls.; L. Muscat, 68 bls.; Pickford's Colonial, 20 bls.; Salomon Bros. & Co., 118 bls.; L. Tulcin & Co., 60 bls.; I. Hinnerfeld, 10 bls.; G. Levi & Co., 57 bls.; National City Bank, 680 bls.; National Bank of Commerce, 4,498 bls.; Chemical National Bank, 141 bls.; Anglo-South American Trust Co., 624 bls.; International Acceptance Bank, 216 bls.; Equitable Trust Co., 984 bls.; Garfield National Bank, 29 bls.; New York Trust Co., 772 bls.; Mechanics & Metals National Bank, 1,623 bls.; Philadelphia National Bank, 532 bls.; Bank of New York & Trust Co., 498 bls.; Seaboard National Bank, 483 bls.; Irving Bank-Columbia Trust Co., 66 bls.; South Ward National Bank, 48 bls.; Guaranty Trust Co., 44 bls.; Fidelity International Trust Co., 140 bls.; Amsinck, Stone & Co., 163 bls.; Goldman, Sachs & Co., 1,043 bls.; Ladenburg, Thalman & Co., 54 bls.; W. Schall & Co., 119 bls.; International Purchasing Co., 103 bls.; Brown Bros. & Co., 961 bls.; American Express Co., 82 bls.; A. W. Fenton, Inc., 4,206 bls.; Order, 6,233 bls.

Miscellaneous Paper Stock

S. Silberman Co., 15 bls.; R. M. Gray, Inc., 198 bls.; W. Schall & Co., 599 bls.; First National Bank, 93 bls.; Guaranty Trust Co., 108 coils; National City Bank, 101 bls.; Milton Snedeker Corp., 58 bls.; William Steck & Co., 76 bls.; Brown Bros. & Co., 67 bls.; Maurice O'Meara Co., 29 bls.; Manufacturers Trust Co., 43 bls.; Whaling Waste Products Co., 90 bls.; E. J. Keller Co., 72 bls.; Order, 575 bls.

Paper

Judging from manifests of steamers arriving at the port of New York during the month, August imports of paper into the United States were fairly large. There were some sizable shipments of wrapping and news print paper received, while usual quantities of filter, hanging, cigarette and other classes of paper were imported.

During June the U. S. imported paper of all kinds to the value of $10,188,941, compared with $10,088,947 in May last and with $10,166,874 in June, 1924. In the twelve months ended last June paper imports were valued at a total of $118,178,570, against $118,794,299 in the previous twelve months.

Imports of paper of all kinds through the port of New York in August follow, these data being taken from the manifests of vessels arriving at that port during the month:

Printing

Martin & Betchtold, 23 cs. from Bremen; Titan Shipping Co., 43 cs. from Southampton and 13 cs. from Bremen; Oxford University Press, 29 cs. from Liverpool; B. F. Drakenfeld & Co., 39 cs. from Liverpool; International Forwarding Co., 21 cs. from Rotterdam; Perry, Ryer & Co., 269 cs. from Glasgow; J. P. Heffernan Paper Co., 479 bls. from Trieste; Irving Bank-Columbia Trust Co., 352 rolls from Hamburg; E. Dietzgen & Co., 15 cs. from Rotterdam; Butler American Paper Co., 6 bls. from Glasgow; P. H. Petry & Co., 13 pkgs. from Havre; Keuffel & Esser Co., 28 rolls from Hamburg; Hudson Trading Co., 273 rolls from Hamburg; Norwegian Paper Mills Agency, 383 rolls from Oslo; W. Hartmann & Co., 77 rolls from Rotterdam, 317 rolls from Hamburg and 50 bls. Trieste; New York & Hauseatic Corp., 99 rolls from Hamburg; Furness Bermuda Line, 195 rolls and 18 bls. from Hamburg; H. Reeve Angel & Co., 585 rolls from Kotka; C. Steiner, 37 cs. from Rotterdam; National City Bank, 185 rolls from Gothenburg; P. Puttmann, 26 cs. from Antwerp; Chemical National Bank, 196 rolls from Hamburg; P. C. Zuhlke, 50 cs. from Rotterdam; Order, 5 cs. from London, 1,057 rolls and 12 cs. Bremen and 15 cs. Antwerp.

Wrapping

J. P. Heffernan Paper Co., 25 bls. from Hamburg, 17 bls. Rotterdam and 50 bls. Gothenburg; J. A. Roeblings & Sons Co., 51 rolls from Glasgow; Milton Paper Co., 11 cs. from Hamburg; F. C. Strype, 26 rolls and 17 cs. from Antwerp; Birn & Wachenheim, 20 cs. from Hamburg; Blauvelt-Wiley

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Cut down *excessive* wrapping paper investment. Why carry two wrapping paper lines for one wrapping paper *purpose?*

MOSINEE

presents a perfect wrapping paper, weight and strength for each wrapping purpose. Made in all weights from 15 pounds to 100 pounds basis. The one complete, standardized and economical line of wrapping paper sold.

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"The Wrapper that Delivers the Goods"

On the Wire— Hold the short fibres and save money

The question has long been asked, "How can we keep the short fibres from slipping through?" The problem is solved. Use Quartz Quality Silicate in the beater. It makes the little fibres stick to the bigger ones. That's pulp saving for you and a better product to boot.

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Unexcelled for strength, openness, resiliency, and general running qualities. Made to meet the most exacting conditions on all types of machines and all kinds of papers. Only one grade and that the highest.

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CANTON, MASS.

Woolen Manufacturers Since 1856

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Paper Mfg. Co., 88 bls. from Glasgow; Chemical National Bank, 65 bls. from Hamburg; C. K. MacAlpine & Co., 188 rolls from Gothenburg; Wilkinson Bros. & Co., 355 rolls from Gothenburg and 39 bls. Antwerp; Irving Bank-Columbia Trust Co., 173 rolls from Gothenburg and 10 cs. Hamburg; Arkell Safety Bag Co., 559 rolls from Gothenburg; Borregaard Co., 42 rolls from Gothenburg; C. M. Bogatin & Co., 50 bls. from Genoa; E. Dietzgen & Co., 10 cs. from Rotterdam; Thomas Barrett & Son, 104 bls. from Rotterdam; F. & R. Trading Co., 1,688 bls. from Antwerp; Okonite Callender Cable Co., 238 rolls from London; International Acceptance Bank, 58 cs. from Hamburg; Steffens, Jones & Co., 29 bls. from Rotterdam; Order, 90 rolls from London and 25 bls. Genoa.

Cigarette

R. J. Reynolds Tobacco Co., 2,560 cs. from St. Nazaire; American Tobacco Co., 2,850 cs. from Bordeaux; DeManduit Paper Corp., 719 cs. from St. Nazaire; Gluckman, Strauch & Co., 5 cs. from Bordeaux; M. Spiegel & Sons, 2 cs. from Bordeaux; Standard Products Corp., 105 cs. from Havre; P. J. Schweitzer, 194 cs. from Marseilles; F. P. Gaskell & Co., 10 cs. from Havre; Heemsoth, Basse & Co., 10 cs. from Hamburg; Surbrug Co., 22 cs. from Southampton; Zorro Tobacco Co., 25 cs. from Marseilles.

Writing

Guibont, Freres & Co., 16 cs. from Southampton and 14 cs. Havre.

Drawing

H. Reeve Angel & Co., 4 cs. from London; Keuffel & Esser Co., 26 cs. from Rotterdam and 20 cs. Hamburg; E. Dietzgen & Co., 67 cs. from Hamburg; Order, 4 cs. from London.

Filter

J. Manheimer, 149 bls. from Bordeaux; H. Reeve Angel & Co., 9 pkgs. from Southampton and 67 cs. London; E. Fougera & Co., 48 cs. from Bordeaux; Mager, Sonderberg & Co., 15 cs. from Hamburg; C. G. Euler, 40 bls. from Bordeaux; A. Giese & Son, 8 bls. from Bordeaux; Anglo-American Importing Co., 21 cs. from Southampton; Orbis Products Trading Co., 20 bls. from Bordeaux; Bernard, Judae & Co., 50 rolls from Bordeaux.

Tissue

F. C. Strype, 54 cs. from Liverpool; Baldwin Universal Co., 13 cs. from Liverpool; Iwai & Co., 15 cs. from Kobe; H. Blum & Co., 6 cs. from Kobe.

Photo

Globe Shipping Co., 224 cs. from Bremen; Gevaert Co. of America, 84 cs. from Rotterdam and 45 cs. Antwerp; Phoenix Shipping Co., 45 cs. from Hamburg; P. C. Zuhlke, 128 cs. from Antwerp and 31 cs. Rotterdam; P. Puttmann, 187 cs. from Antwerp; J. J. Gavin & Co., 3 cs. from Liverpool.

Hanging

A. C. Dodman, Jr., & Co., 21 cs. from Southampton, 22 bls. Bremen, 4 cs. Antwerp and 15 bls. Liverpool; F. J. Emmerich & Co., 5 cs. from Hamburg, 3 cs. Liverpool and 4 bls. London; C. A. Haynes & Co., 50 cs. from London; F. A. Binder, 5 bls. from Bremen; W. H. Lloyd & Co., 46 bls. from Liverpool; Titan Shipping Co., 24 cs. from Southampton; G. I. Hunken & Co., 5 cs. from Hamburg.

Board

Hensel, Bruckman & Lorbacher, 3 cs. from Rotterdam; Adrian Vuyck, 316 rolls from Rotterdam; Pulp & Paper Trading Co., 216 rolls from Rotterdam; Happel & McAvoy, 3 cs. from Havre; Fiber Case & Novelty Co., 18 bls. from Gothenburg; Lowy & Lowy, Inc., 11 bls. from Gothenburg; O. M. Baxter, Inc., 33 cs. from Gothenburg; A. Bourjois & Co., 6 cs. from Havre; Order, 17 bls. from Hamburg.

Miscellaneous

P. C. Kuyper & Co., 9 cs. from Bremen; T. Tiedemann & Co., 7 bls. from Rotterdam; S. Gilbert, 22 cs. from Rotterdam; Leonhardt & Brush, 71 cs. from Hamburg; Schleicher, Schull & Co., 11 cs. from Hamburg; Bernard, Judae & Co., 3 cs. from Hamburg and 7 cs. Gothenburg; Birn & Wachenheim, 12 cs. from Hamburg; International Forwarding Co., 10 cs. from Hamburg; R. F. Downing & Co., 16 cs. from Bre-

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Beating Engines
are Built
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Heavy Duty

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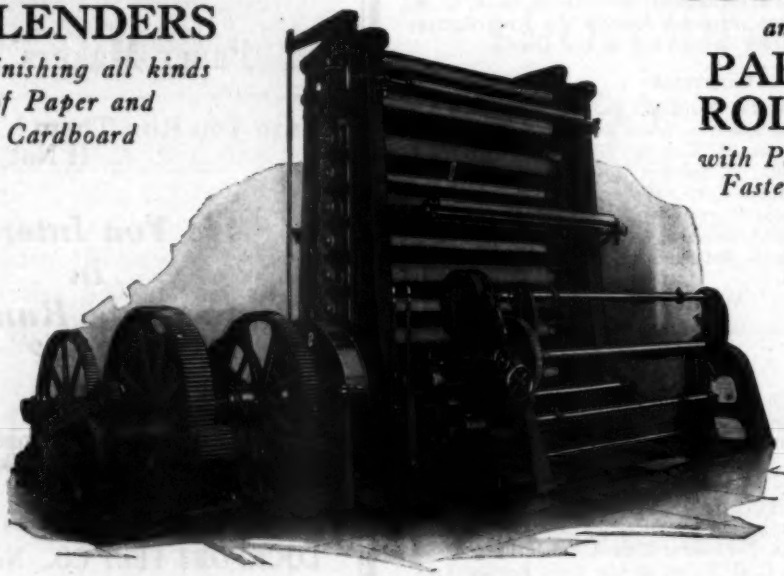
Makers of Improved Machinery for Wood Pulp and Paper Mills

LARGEST MAKERS *of*
CALENDERS
for finishing all kinds of Paper and Cardboard

COTTON *and* **PAPER ROLLS** *with Patented Fastenings*

Platers,
Washing and Beating Engines,
Wood Pulp Grinders,
Barkers,
Chippers,
Rag and Paper Dusters



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If your Paper Machines are not equipped with Press Rolls of BARRE GRANITE you are not getting the results that you should get, for it is a recognized fact that granite rolls are much superior to any others and Barre Granite the best of all. Let us tell you about them.

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BARRE, VT. **BOSTON, MASS.**

men; Hensel, Bruckman & Lorbacher, 5 cs. from Rotterdam and 3 cs. Bremen; H. Glass & Co., 10 cs. from Antwerp; Louis DeJonge Co., 4 cs. from Antwerp; Japan Paper Co., 10 cs. from Havre, 14 bls. Rotterdam and 99 cs. Genoa; C. H. Boulin, 8 cs. from Havre; P. H. Petry & Co., 14 cs. from Hamburg, 19 cs. Bremen and 11 cs. Havre; Favor, Ruhl & Co., 8 cs. from London; Kolesch & Co., 5 cs. from Rotterdam; Southern Pacific Co., 3 cs. from Havre; Happel & McAvoy, 16 cs. from Hamburg; Blauvelt-Wiley Paper Mfg. Co., 4 bls. from Glasgow; L. Godwin & Co., 15 cs. from Hamburg; Overton & Co., 4 cs. from Bremen; Furness, Withy & Co., 10 cs. from Oslo; Whiting-Patterson Co., 8 cs. from Hamburg; Heemsoth, Basse & Co., 39 pkgs. from Rotterdam; H. DeMaggin & Co., 10 cs. from Havre.

Foreign Trade Opportunities

Additional information regarding the following foreign trade opportunities issued by the Bureau of Foreign and Domestic Commerce of the United States Department of Commerce may be obtained from the Bureau in Washington, D. C., or its branch offices. It is requested that the number of the inquiry be given at all times.

No. 16058—Paper bags for cement. Messina, Italy. Purchase desired.

No. 16028—Gilt and silver paper. Pirmasens, Germany. Purchase desired.

No. 16063—Machinery for printing and cutting paper in rolls. Brussels, Belgium. Purchase desired.

No. 16065—Raw materials for paper and wood pulp mills. Stockholm, Sweden. Purchase and agency desired.

No. 16061—Old clean newspapers. Manchester, England. Purchase desired.

No. 16060—Oiled paper for packing. Zurich, Switzerland. Purchase and agency desired.

No. 16059—Paper for cigarette wrappers. Rosario, Argentina. Purchase desired.

No. 15924—Paper for match boxes. Ghent, Belgium. Purchase desired.

No. 16062—Paper, printing, and printing machinery. Sao Paulo, Brazil. Purchase desired.

No. 16171—Bond paper. Bogota, Colombia. Purchase desired.

No. 16194—Machinery for making wax paper drinking cups. Melbourne, Australia. Purchase desired.

No. 16183—Tapes, paper, gummed, and stay paper for box making. Nottingham, England. Purchase desired.

No. 16196—Wall papers, all kinds. Cairo, Egypt. Purchase desired.

No. 16295—Boxes, strawboard, corrugated, one-piece. Ottawa, Canada. Purchase desired.

No. 16437—Transparent paper. Alexandria, Egypt. Purchase and agency desired.

Big Plans for Paper Exposition in 1927

As briefly announced in the August issue of THE PAPER INDUSTRY, it has been decided to postpone the Third Paper Industries Exposition until the spring of 1927, when the American Paper and Pulp Association will hold its fiftieth anniversary meeting. At that time it is expected that a real big convocation of organizations interested both in the manufacture, sale and use of paper can be drawn together in celebration of the event and a most successful exposition can be staged.

On behalf of the management, Charles F. Roth has sent out a letter thanking their many friends who have co-operated with them in making the past Paper Industries Expositions successful and for their faith in the judgment and decision to postpone the present proposed exposition. The management hopes for the same cordial co-operation and support in the future. At the same time, exhibitors' attention is called to the opportunity existing in the Tenth Chemical Industries Exposition being held at Grand Central Palace, New York, September 28 to October 3. The T. A. P. P. I. are meeting and holding a program at the exposition. Large numbers of the technical mill men will attend and an opportunity to meet them with exhibits is afforded.

Hungerford Filters
for
Clear Water

Hungerford Softening Filters
for
Soft Water

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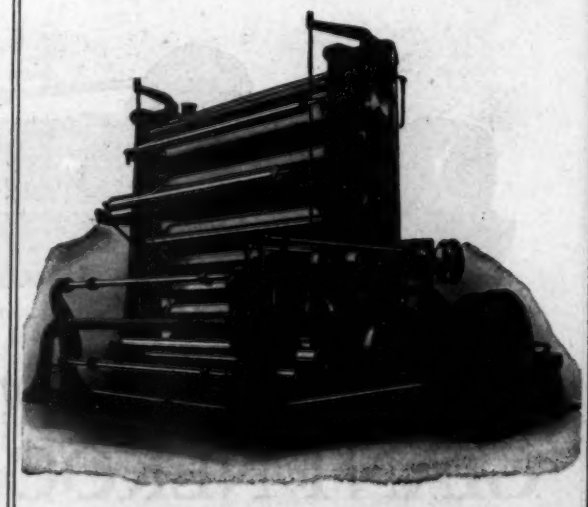
SUPER CALENDERS



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"FOR Years of Dependable Cooking and Bleaching"—that's the story of Biggs Rotary Boilers in a nutshell. And you can make it as many years as you please, for it seems as if there's practically no wear-out to them.

Whether your work calls for globe or cylinder rotaries, the way to be sure of getting them made right, at the right price, and installed to your entire satisfaction, is to give Biggs the order.

Make use of our long experience in building bleaching and cooking equipment.

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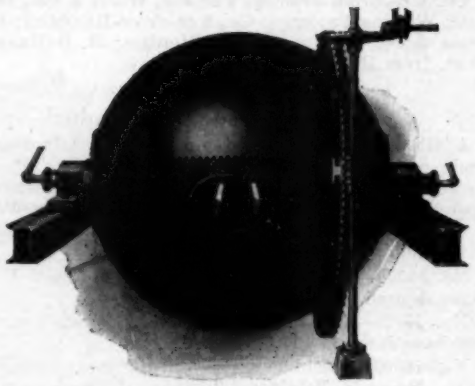

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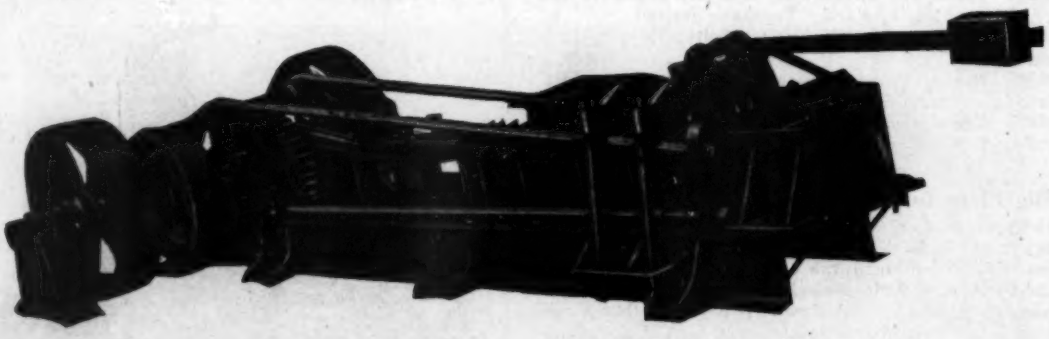

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